REPORT DOCUMENTATION PAGE

1. Recipient's Reference	2. Originator's Reference	3. Further Reference	4. Security Classification of Document
	AGARD-R-702 Addendum No.1	ISBN 92-835-1495-5	UNCLASSIFIED

5. Originator Advisory Group for Aerospace Research and Development
North Atlantic Treaty Organization
7 rue Ancelle, 92200 Neuilly sur Seine, France

6. Title

COMPENDIUM OF UNSTEADY AERODYNAMIC MEASUREMENTS

7. Presented at

8. Author(s)/Editor(s)	9. Date
Various	May 1985
10. Author's/Editor's Address	**11. Pages**
Various	128

12. Distribution Statement This document is distributed in accordance with AGARD policies and regulations, which are outlined on the Outside Back Covers of all AGARD publications.

13. Keywords/Descriptors

Aerodynamic characteristics	Aerodynamic configurations
Unsteady flow	Experimental data
Transonic flow	Applications of mathematics
Aeroelasticity	

14. Abstract

This Addendum contains two further sets of windtunnel measurements made on the AGARD Aeroelastic Configurations already chosen as computational test cases.

General comments on the experimental programme and its relationship to the theoretical computations are contained in the initial volume of R-702.

This report was sponsored by the Structures and Materials Panel of AGARD.

LIBRARY
RESEARCH REPORTS DIVISION
NAVAL POSTGRADUATE SCHOOL
MONTEREY CALIFORNIA 93943

AGARD-R-702 ADDENDUM No.1

AGARD

ADVISORY GROUP FOR AEROSPACE RESEARCH & DEVELOPMENT

7 RUE ANCELLE 92200 NEUILLY SUR SEINE FRANCE

AGARD REPORT No.702

Compendium of Unsteady Aerodynamic Measurements

Addendum No.1

NORTH ATLANTIC TREATY ORGANIZATION

DISTRIBUTION AND AVAILABILITY
ON BACK COVER

NORTH ATLANTIC TREATY ORGANISATION

ADVISORY GROUP FOR AEROSPACE RESEARCH AND DEVELOPMENT

(ORGANISATION DU TRAITE DE L'ATLANTIQUE NORD)

AGARD Report No.702

ADDENDUM No.1

COMPENDIUM OF UNSTEADY AERODYNAMIC MEASUREMENTS

This Report was sponsored by the Structures and Materials Panel of AGARD.

THE MISSION OF AGARD

The mission of AGARD is to bring together the leading personalities of the NATO nations in the fields of science and technology relating to aerospace for the following purposes:

— Exchanging of scientific and technical information;

— Continuously stimulating advances in the aerospace sciences relevant to strengthening the common defence posture;

— Improving the co-operation among member nations in aerospace research and development;

— Providing scientific and technical advice and assistance to the North Atlantic Military Committee in the field of aerospace research and development;

— Rendering scientific and technical assistance, as requested, to other NATO bodies and to member nations in connection with research and development problems in the aerospace field;

— Providing assistance to member nations for the purpose of increasing their scientific and technical potential;

— Recommending effective ways for the member nations to use their research and development capabilities for the common benefit of the NATO community.

The highest authority within AGARD is the National Delegates Board consisting of officially appointed senior representatives from each member nation. The mission of AGARD is carried out through the Panels which are composed of experts appointed by the National Delegates, the Consultant and Exchange Programme and the Aerospace Applications Studies Programme. The results of AGARD work are reported to the member nations and the NATO Authorities through the AGARD series of publications of which this is one.

Participation in AGARD activities is by invitation only and is normally limited to citizens of the NATO nations.

The content of this publication has been reproduced
directly from material supplied by AGARD or the authors.

Published May 1985

Copyright © AGARD 1985
All Rights Reserved

ISBN 92-835-1495-5

Printed by Specialised Printing Services Limited
40 Chigwell Lane, Loughton, Essex IG10 3TZ

INTRODUCTION

by

N.C.Lambourne
62 Putnoe Lane
Bedford MK41 9AE
England

Publication of the Compendium (AGARD R-702) in August 1982 made data for seven of the AGARD Aeroelastic Configurations promptly available. However, data for three of the AGARD Configurations could not be included because the experiments on these had not been completed; for these the intention was to issue addenda.

This, the first addendum, comprises data sets for the ZKP wing and the LANN wing. At a later date it may be possible to issue a data set for the remaining AGARD Configuration, the Rectangular Wing, on which experiments have not yet been performed.

Note concerning the test cases of AGARD AR-167*

The cases specified in AR-167 for the computations were, for some configurations, based on proposals made before the experiments had been started. It is not unusual to find that test programmes need to be modified once the experiments have commenced. This has happened for both of the wings included here; the cases of the present Data Sets whilst covering the same kind of parameter variations, do not agree in detail with those given in AR-167.

It follows that researchers making calculations for the Rectangular Wing should take warning that the experimental results may relate to cases which differ somewhat from those of AR-167.

*S.R.Bland: AGARD Three-Dimensional Aeroelastic Configurations AGARD AR-167, March 1982.

SUMMARY

The Compendium contains two further sets of wind tunnel measurements made on AGARD Aeroelastic Configurations already chosen as computational test cases.

General comments on the experimental programme and its relationship to the theoretical computations are contained in the initial volume of R-702.

CONTENTS

		Page
INTRODUCTION by N.C.Lambourne		iii
SUMMARY		iv
DATA SETS 3-D Configurations		
8	ZKP WING, OSCILLATING AILERON by K.Dau, S.Vogel and H.Zimmermann	8-1
9	LANN WING, PITCHING OSCILLATION by R.J.Zwaan	9-1

DATA SET 8

ZKP WING, OSCILLATING AILERON

by

Dipl. Ing. K.Dau
Dipl. Ing. S.Vogel
Dipl. Ing. H.Zimmermann
MBB Transport und Verkehrsflugzeuge
TE 234
Postfach 10 78 45
2800 Bremen 1
Fed. Rep. of Germany

INTRODUCTION

This Data Set contains pressure distributions measured on the ZKP wing for an oscillating aileron in the ONERA transonic S1 wind tunnel at Modane, France, in late 1982. The tests were part of a cooperative project between MBB, ONERA, and the Aerospatiale corporation. The purpose of the tests was to obtain steady and unsteady pressures due to fast-moving control surfaces in transonic flow, likely to be encountered in the operation of active control systems for transport aircraft.

The following is a number of comments on the diagrams and tables.

GEOMETRY OF EXPERIMENTAL MODEL

The model geometry is shown in Fig. 8.3 to 8.5. Figure 8.3 shows the model including the major dimensions of the half-fuselage in a coordinate system parallel to the tunnel floor and walls. Figure 8.4 shows the dimensions of the wing and the aileron when rotated by the dihedral angle of 4.787 deg into the plane z = 0 of the coordinate system in which the profile coordinates are given by Ref. 8.1. Figure 8.5 shows the details of the aileron geometry in cross-section, including nose and gap geometry.

COMPARISON WITH AGARD COMPUTATIONAL PROGRAMME OF REF. 8.1

Model geometry

Unlike the computational model (Ref. 8.1, Fig. 7) the experimental model has a half-fuselage as shown in Fig. 8.3. This changes the definition of the root chord which is now smaller than the computational root chord because of the taper of the wing (see Fig. 8.4). The difference in the definition of the root chord affects the specifications of reduced frequency and Reynold's number as shown in Para. 12, NOTATION. Otherwise the two planforms and their coordinate origins are identical. Furthermore, the gap between aileron and wing spar (Fig. 8.5) of the experimental model was not sealed, as stated in Ref. 8.1. The gap is 0.3-0.5 mm wide.

Instrumentation

The number and location of the sections at which pressures were measured where changed from the values given in Ref. 8.1 to those given in Fig. 8.6.

Design Condition

The design condition of the experimental model is M = 0.78 and α_m = 1.5 deg as listed in Ref. 8.1, Sect. 3.4. The experimental lift coefficient may be somewhat different from the listed theoretical value of 0.5 at the design condition, depending on how the fuselage contribution is interpreted.

Experimental Cases

The experimental cases for which data are provided in the Data Set are not identical with the computational test cases originally suggested in Ref. 8.1, Table 9; this may affect the choices for future calculations. The correspondence between the experimental and the original computational cases is shown in Table 8.2. It will be seen that, of the computational choices, only the three priority cases have closely related experimental cases. No experimental results are available for M = 0.73 to match the computational cases 2 and 3.

TEST SET-UP AND INSTRUMENTATION

The wind tunnel test set-up for measuring unsteady pressures on the wing is shown in Fig. 8.1 and 8.2. To prevent the wing tip from executing large bending motions due to aileron forces, the wing tip was braced by four cables, all attached to a point of the wing tip, and lying in a plane roughly parallel to the aircraft plane of symmetry. The other ends of the cables were led outside the test section, and preloaded with a two-ton weight each.

Prior to every unsteady run the brakes on all cables were released permitting the wing to assume a mean position under aerodynamic load without additional cable constraint, while the new mean test parameters (Mach no., wing and flap incidences) were established. The cables were then clamped, and remained clamped during aileron oscillation.

The aileron was actuated by a hydraulic servo motor producing a harmonic aileron rotation about its swept hinge axis. The instantaneous aileron displacement was measured relative to the wing by potentiometers in the streamwise direction at the two aileron stations.

The wing was equipped with 509 pressure taps for steady pressures, and 387 Kulite transducers for unsteady pressures. The tap coordinates are listed in Tables 8.3 to 8.7 with their corresponding pressures.

The pressure taps were arrayed in streamwise wing sections as shown in Fig. 8.6. For reasons of space the sections containing steady-pressure taps were not congruent with those for unsteady pressures, but are considered to be close enough to reflect flow conditions for the neighboring unsteady pressures with sufficient accuracy for most purposes.

Steady pressures were measured via tubing and scanivalve by tunnel system transducers, unsteady pressures were measured by Kulite transducers installed directly below each pressure tap. Furthermore 17 accelerometers were installed on the wing, one of them on the aileron, see Fig. 8.7.

DATA PROCESSING

Only the fundamental component was recorded for each response signal. Response signal phase was defined to be relative to aileron motion. All listed pressures correspond to an aileron amplitude of $\delta_o = 1°$, the aileron deflection angles δ_m and δ_o being defined in the streamwise direction.

Both steady and unsteady pressures are presented in uncorrected form. Those pressure values which were obviously spurious (transducer failure, etc.) were eliminated. Besides these data additional data, listed in Table 8.1, could be made available.

DISCUSSION

The unsteady pressures generally exhibit the distribution typical for ailerons on transport aircraft wings, i.e. they are virtually zero outside the neighborhood of the aileron sections. Therefore only the aileron section pressures are shown as plots against x/c on Fig. 8.8 to 8.14.

Concerning the sectional lift and moment coefficients, which are listed in the same tables as the pressure distribution from which they were derived, it should be pointed out that they are uncorrected in the sense that no attempt has been made to introduce supplementary points where a pressure peak was obviously not properly defined by the array of pressure taps, see for instance Fig. 8.11, top left plot. Furthermore the integration interval extended only from the first to the last tap on a given section. The section coefficients should therefore be viewed only as a rough guide to the spanwise distribution.

Because of the uncorrected values, the spanwise distribution of load coefficients is likely to show some fluctuation. The wiggle near the wing tip, however, seems to be genuine; and is believed to have been caused by a geometric irregularity behind the aileron gap.

During the course of the test program certain steady test cases were repeated a number of times for nominally the same test parameters. Since repeatability is a good indicator of data quality, the pressures on the mid-aileron section have been plotted on top of each other for a number of nominally identical cases, see Fig. 8.15.

The right-hand plot corresponds to five runs, one of which (case 94) was made entirely without wing-tip cable braces, entailing a tunnel shut-down before the remaining cases were run. In spite of the shut-down, repeatability may be said to be very good. The left-hand plot shows pressures for a larger number of repetitions for the same case, with two intervening shut-downs. Agreement here is still good, but two runs show a marked deviation from the mean near the hinge position, which is known to be sensitive to changes in flow parameters. The two runs in question were separated by two shut-downs from the other runs of the series.

No comparable repetitions were made for unsteady pressures, but they are felt to be of the same quality as the steady ones.

1 GENERAL DESCRIPTION OF MODEL

1.1	Designation	ZKP Wing
1.2	Type	Half-model of wing-fuselage combination, transport aircraft with oscillating aileron, no tail surfaces
1.3	Derivation	Research wing, representative of a medium-range transport aircraft with a supercritical wing
1.4	Additional remarks	
1.5	References	

2 MODEL GEOMETRY

2.1	Planform	high aspect ratio, tapered
2.2	Leading edge sweep	30.08 deg
2.4	Trailing edge sweep	20.89 deg for outer wing
2.5	Taper ratio	0.26
2.6	Twist	washout type, see Ref. 8.1, Table 4
2.7	Root chord	1.5055 m
2.8	Span of model	4.0161 m semi-span
2.9	Area of planform	3.5989 sq. m
2.10	Location of reference section and definition of profiles	15%, 40%, and 85% semi-span (see Ref. 8.1, Sect. 2.4)
2.11	Lofting procedure between reference sections	linear on constant-chord lines between reference sections (see Ref. 8.1, Sect. 2.4)
2.12	Form of wing body, or wing-root junction	Gap between half-fuselage and floor sealed with brushes
2.13	Form of wing tip	rounded
2.14	Control surface details	unsealed aileron-wing gap abt. 0.3 to 0.5 mm wide (see Fig. 8.5)

3 WIND TUNNEL

3.1	Designation	ONERA S1 transonic tunnel, Modane, France
3.2	Type of tunnel	Closed-circuit, ambient press.
3.3	Test section dimensions	6.855 m high and wide 14.0 m long (see Fig. 8.1, 2)
3.4	Type of roof and floor	solid, except for 2 slots (see also Fig. 8.1,2)
3.5	Type of side walls	solid
3.6	Ventilation geometry	one slot each at intersection of floor with W/T shell, 0.13 m wide, running from 5 m to 9 m from test section entrance.
3.7	Thickness of side wall boundary layer	ca. 0.1 m
3.8	Thickness of boundary layers at roof and floor	ca. 0.1 m
3.9	Method of measuring Mach number	by measurement of static pressure, 4.5 m upstream of test section, and by previous calibration.
3.10	Flow angularity	not measured
3.11	Uniformity of Mach number over test section	not measured
3.12	Sources and levels of noise or turbulence in empty tunnel	considered very small
3.13	Tunnel resonances	at f = N/5, N/6, N/5 + N/6, N = 246 M
3.14	Additional remarks	-
3.15	References on tunnel	-

4 MODEL MOTION

4.1	General description	Aileron oscillation with braced wing tip
4.2	Reference coordinate and definition of motion	Flap angle measured relative to wing and in streamwise direction. Aileron harmonic rotation about swept axis at the 77.4% chord line, measured at inboard and center aileron section.

4.3	Range of amplitude	1 and 2 deg.
4.4	Range of frequency	6, 12, 21 Hz
4.5	Method of applying motion	aileron oscillation driven by electro-hydraulic servo system
4.6	Timewise purity of motion	not evaluated
4.7	Natural frequencies and normal modes of model and support system	15.6, 27.3, and 44.4 Hz with cable braces
4.8	Actual mode of applied motion including any elastic deformation	direct-drive servo near center of aileron
4.9	Additional remarks	-

5 TEST CONDITIONS

5.1	Model planform area/ Tunnel area	0.08
5.2	Model span/ Tunnel width	0.5858
5.3	Blockage	-
5.4	Position of model in tunnel	x-mac 6.19 m downstream of test section inlet (see Fig. 8.1)
5.5	Range of Mach number	0.5, 0.78, 0.83
5.6	Range of tunnel total pressure	0.9 bar
5.7	Range of tunnel total temperature	298 to 322 deg K
5.8	Range of model steady, or mean, incidence	-1 to +3 deg
5.9	Definition of model incidence	the model incidence α_m is defined to be zero when the fuselage reference line (FRL) is parallel to the tunnel walls. The FRL lies in the plane z = 0 of the profile coordinate system as listed in Ref. 8.1
5.10	Position of transition, if free	-
5.11	Position and type of trip, if transition fixed	x/c = 0.07, upper and lower wing surface, 5 mm wide band of 80K carborundum. Same type of trip on fuselage, 105 mm from nose
5.12	Flow instabilities during tests	none detected
5.13	Changes to mean shape model due to steady aerodynamic load	not measured
5.14	Additional remarks	-
5.15	References describing tests	-

6 MEASUREMENTS AND OBSERVATIONS

6.1	Steady pressures for the mean conditions	x
6.2	Steady pressures for small changes from the mean conditions	x
6.3	Quasi-steady pressures	6Hz
6.4	Unsteady pressures	X
6.5	Steady section forces for the mean conditions by integration of pressures	X
6.6	Steady section forces for small changes from the mean conditions by integration	—
6.7	Quasi-steady section forces by integration	6 Hz
6.8	Unsteady section forces by integration	X

6.9 Measurement of actual motion at points on model	x
6.10 Observation or measurement of boundary layer properties	not done
6.11 Visualization of surface flow	not done
6.12 Visualization of shockwave movements	not done
6.13 Additional remarks	-

7. INSTRUMENTATION

7.1 Steady pressures	
7.1.1 Position of orifices spanwise and chordwise	see Fig. 8.6, and Table 8.3 to 8.7
7.1.2 Type of measuring system	taps connected via tubing and scanivalve to tunnel system transducers
7.2 Unsteady pressures	
7.2.1 Position of orifices spanwise and chordwise	see Fig. 8.6, and Table 8.3 to 8.7
7.2.2 Diameter of orifices	0.3 mm
7.2.3 Type of measuring system	Transducer installed directly below each tap
7.2.4 Type of transducers	Kulite
7.2.5 Principle and accuracy of calibration	calibrated by 30 Hz sinusoidal signal before tests. Checked at various intervals during testing. Variation less than 1%.
7.3 Model motion	
7.3.1 Method of measuring motion reference co-ord	Aileron angle measured relative to wing structure by rotatory potentiomers
7.3.2 Method of determining spatial mode of motion	By accelerometers on wing and aileron, and potentiometers on aileron
7.3.3 Accuracy of measured motions	2%
7.4 Processing of unsteady measurements	
7.4.1 Method of acquiring and processing measurements	signal digitized (12 bit ADC) and Fourier transformed. Transfer function for motion-pressure by HP 5451 Analyzer.
7.4.2 Type of analysis	Only 1. harmonic kept
7.4.3 Unsteady pressure quantities obtained and accuracies achieved	Presented data are amplitudes of fundamental of all response signals. Response phases are defined relative to zero aileron deflection
7.4.4 Method of integration to obtain forces	Cubic spline, uncorrected for possible missed peaks. Integration interval between first and last pressure taps on section
7.5 Additional remarks	-
7.6 References on techniques	-

8. DATA PRESENTATION

8.1 Test cases for which data could be made available	See Table 8.1
8.2 Test cases for which data are included in this document	See Table 8.2

8.3 Steady pressures	Tables 8.3 to 8.7
8.4 Quasi-steady or steady perturbation pressures	6 Hz, unsteady pressures
8.5 Unsteady pressures	Tables 8.3 to 8.7
8.6 Steady forces or moments	Tables 8.3 to 8.7
8.7 Quasi-steady or steady perturbation forces	6 Hz, unsteady loads
8.8 Unsteady forces and moments	Tables 8.3 to 8.7
8.9 Other forms in which data could be made available	magnetic tape
8.10 References giving other presentations of data	See Ref. 8.2

9. COMMENTS ON DATA

9.1 Accuracy	
9.1.1 Mach number	ca. 0.002
9.1.2 Steady incidence	ca. 0.1 deg
9.1.3 Reduced frequency	ca. 2% variation
9.1.4 Steady pressure coefficients	see discussion and Fig. 8.15
9.1.5 Steady pressure derivatives	not calculated
9.1.6 Unsteady pressure coefficients	see discussion
9.2 Sensitivity to small changes of parameter	not calculated
9.3 Non-linearities	none detected
9.4 Influence of tunnel total pressure	total pressure was kept constant
9.5 Effects on data of uncertainty, or variation, in mode of motion	not checked
9.6 Wall interference corrections	All pressures are uncorrected.
9.7 Other relevant tests on same model	None
9.8 Relevant tests on other models of nominally the same shape	None
9.9 Any remarks relevant to comparison between experiment and theory	-
9.10 Additional remarks	
9.11 References and discussion of data	See Ref. 8.2

10. PERSONAL CONTACT FOR FURTHER INFORMATION

Dipl.-Phys. H. Zimmermann, MBB-Bremen, Abt. TE234
Hünefeldstr. 1-5
2800 Bremen, West Germany

11. LIST OF REFERENCES

8.1 Bland, S.R. — AGARD three-dimensional aeroelastic configurations
AGARD Advisory Report No. 167
March 1982

8.2 Couston, M., Angélini, J.J. Meurzec, J.P. — Comparaison des champs de pression instationnaires calcules et mesures sur le modele ZKP. AGARD Report No. 688, April 1980. (Also available as RAE Library Translation 2061, November 1980).

12 NOTATION

Standard AGARD Notation is set out in Ref. 8.1. The notation in this Data Set differs in the following respects because:

The reduced frequency K is based on the half chord at the wing-body junction (c = 1.5055 m) whereas the reduced frequency k of Ref. 8.1 is based on the half chord of the computational planform (c = 1.802). See Fig. 8.4.

The computer symbols in Tables 8.3-8.7 have the following meaning:

ALPHA = α_m , mean wing incidence, as defined in Para. 5.9

C = c, local chord

CL = c_l , sectional lift coefficient

CM = c_m , sectional moment coefficient about quarter-chord point

CPL = C_p , lower surface

CPU = C_p , upper surface

CPL/RAD = lower surface
CPU/RAD = upper surface
} unsteady pressure coefficients/unit amplitude

DELM = δ_m , mean streamwise aileron angle

FREQ = f, frequency

K = reduced frequency based on half-chord at wing-body junction, AGARD k = 1.197 K

PTOT = p , total pressure

QINF = q, dynamic pressure

RE = Reynolds number, based on chord at wing-body junction, AGARD Re = 1.197 RE

S = s, semi-span

TO = T_o, total temperature of flow

X/C = non-dimensional chordwise position aft of local leading edge

Y/S = η , spanwise position relative to plane of symmetry.

Table 8.1 List of run numbers available for release

Run parameters						Run Indices			
M	p_t (bar)	T_o (°K)	α_m (°)	δ_m (°)	δ_0 (°)	Steady	6 Hz	12Hz	21Hz
0.50	0.9	297.7	3.0	-5.0	1.0	21	18	--	21
0.50	0.9	297.9	3.0	0.0	1.0	26	23	25 *	26
0.50	0.9	297.9	3.0	10.0	1.0	33	31	--	33
0.78	0.9	311.3	-1.0	-5.0	1.0	58	56	--	58
0.78	0.9	315.9	-1.0	0.0	1.0	75	61	64	75
0.78	0.9	317.4	-1.0	0.0	2.0	144	63	144	--
0.78	0.9	320.8	-1.0	5.0	1.0	80	78	--	80
0.78	0.9	322.6	0.0	-5.0	1.0	90	88	--	90 *
0.78	0.9	322.7	0.0	0.0	1.0	97	94	96	97 *
0.78	0.9	319.2	0.0	0.0	2.0	143	95	143	--
0.78	0.9	322.0	0.0	5.0	1.0	102	--	--	102
0.78	0.9	318.0	2.0	-5.0	1.0	109	107	--	109
0.78	0.9	319.2	2.0	0.0	1.0	116	112	115	116 *
0.78	0.9	316.5	2.0	0.0	2.0	145	114	145	--
0.78	0.9	319.4	2.0	5.0	1.0	119	119	--	121
0.83	0.9	321.6	0.0	-2.0	1.0	140	131	137	140 *
0.83	0.9	321.6	0.0	0.0	1.0	141	133	138	141
0.83	0.9	322.2	0.0	2.0	1.0	142	135	139	142

Note: The starred case numbers correspond to the data in Tables 8.3 to 8.7

Table 8.2 Experimental cases for which data are included, related to computational cases of Ref 8.1

Experimental Case					Computational Case				
Run Index	M	α_m (deg)	δ_m (deg)	f (Hz)	Case No	M	αm (deg)	δ_m (deg)	f (Hz)
25	0.50	3	0	12	1	0.30	0	-4.60	10
97	0.78	0	0	21	4 *	0.78	0	0	20
90	0.78	0	-5	21	5 *	0.78	0	-5.52	20
116	0.78	2	0	21	6 *	0.78	2	0	20
140	0.83	0	-2	21	7	0.83	0	-5.52	20

* indicates priority case

TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 1

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 25

M	0.500	PTOT	0.900 BAR	K	0.336
ALPHA	3.000 DEG.	QINF	0.133 BAR	FREQ	12.0 HZ
RE	0.134D+08	T0	297.850 DEG. K	Y/S	0.254

DELTM 0.0 DEG.

----------< UPPER SURFACE >----------

STEADY DATA

X/C	CPU
0.010	-2.067
0.020	-2.040
0.030	-1.657
0.050	-1.324
0.100	-1.033
0.150	-0.867
0.200	-0.769
0.250	-0.725
0.300	-0.659
0.350	-0.604
0.375	-0.578
0.400	-0.559
0.425	-0.523
0.450	-0.499
0.475	-0.480
0.500	-0.451
0.525	-0.422
0.550	-0.398
0.575	-0.366
0.600	-0.335
0.625	-0.306
0.650	-0.273
0.675	-0.256
0.700	-0.234
0.750	-0.185
0.800	-0.134
0.850	-0.083
0.900	-0.021
0.950	0.053
1.000	0.139

UNSTEADY DATA

CPU/RAD

X/C	REAL	IMAG	MAG	PHASE
0.100	0.008	-0.008	0.011	-45.00
0.200	0.0	-0.001	0.001	-90.00
0.300	-0.003	-0.004	0.005	-123.69
0.350	0.005	-0.003	0.006	-33.69
0.400	0.001	0.0	0.001	0.0
0.450	0.002	-0.003	0.004	-63.44
0.500	0.004	0.0	0.004	0.0
0.600	0.007	-0.002	0.007	-14.04
0.650	0.004	-0.002	0.004	-26.57
0.700	0.007	-0.002	0.007	-14.04
0.720	0.009	-0.005	0.011	-30.96
0.750	0.007	-0.002	0.007	-14.04
0.800	0.003	-0.003	0.005	-45.00
0.850	0.011	-0.004	0.011	-18.44
0.900	0.009	0.0	0.009	0.0
0.950	0.014	-0.002	0.014	-7.12
0.970	0.009	-0.002	0.009	-9.46

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.4742	0.0121	-0.0055	UNCORRECTED
CM	-0.0182	-0.0012	0.0014	

----------< LOWER SURFACE >----------

STEADY DATA

X/C	CPL
0.0	0.392
0.010	0.676
0.030	0.447
0.050	0.298
0.100	0.068
0.200	-0.146
0.300	-0.207
0.400	-0.225
0.500	-0.162
0.600	-0.059
0.700	0.056
0.800	0.136
0.850	0.156
0.900	0.167
0.950	0.166

UNSTEADY DATA

CPL/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.023	-0.008	0.025	-19.98
0.100	0.029	-0.007	0.030	-12.99
0.200	0.030	-0.013	0.033	-23.96
0.300	0.027	-0.008	0.028	-17.10
0.400	0.019	-0.006	0.020	-18.44
0.500	0.020	-0.008	0.021	-22.62
0.600	0.015	-0.010	0.018	-33.69
0.700	0.011	-0.009	0.014	-39.80
0.750	0.014	-0.010	0.017	-35.54
0.800	0.012	-0.009	0.015	-36.87
0.850	0.009	-0.006	0.011	-30.96
0.900	0.010	-0.005	0.012	-26.56
0.950	0.011	-0.005	0.012	-26.56

TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 2

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 25

M	0.500	PTOT	0.900 BAR	K	0.336
ALPHA	3.000 DEG.	QINF	0.133 BAR	FREQ	12.0 HZ
RE	0.134D+08	T0	297.850 DEG. K	Y/S	0.353

DELTM 0.0 DEG.

----------< UPPER SURFACE >----------

STEADY DATA

X/C	CPU
0.020	-1.968
0.050	-1.289
0.100	-0.987
0.140	-0.884
0.200	-0.789
0.250	-0.717
0.300	-0.655
0.325	-0.634
0.350	-0.605
0.375	-0.582
0.425	-0.550
0.450	-0.530
0.475	-0.513
0.500	-0.508
0.550	-0.479
0.650	-0.401
0.700	-0.357
0.750	-0.280
0.800	-0.247
0.850	-0.181
0.900	-0.103
0.950	-0.006
1.000	0.109

UNSTEADY DATA

CPU/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	-0.032	0.035	0.047	132.40
0.100	-0.011	0.022	0.025	116.57
0.200	-0.001	0.011	0.011	97.12
0.300	-0.014	0.011	0.018	143.13
0.350	-0.009	0.017	0.019	118.30
0.400	-0.004	0.006	0.007	123.69
0.450	-0.002	0.002	0.002	135.00
0.500	-0.016	-0.002	0.016	-171.87
0.600	-0.014	-0.004	0.014	-164.05
0.650	-0.016	-0.008	0.018	-153.43
0.700	-0.016	-0.010	0.019	-147.99
0.720	-0.013	-0.009	0.016	-146.31
0.750	-0.014	-0.006	0.016	-156.80
0.800	-0.014	-0.008	0.016	-150.95
0.850	-0.015	-0.012	0.019	-142.12
0.900	-0.011	-0.013	0.018	-129.81
0.950	-0.014	-0.008	0.016	-150.26
0.970	-0.008	-0.006	0.010	-143.13

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.5283	0.0032	-0.0093	UNCORRECTED
CM	-0.0679	-0.0030	0.0014	

----------< LOWER SURFACE >----------

STEADY DATA

X/C	CPL
0.0	0.301
0.050	0.276
0.100	0.055
0.140	-0.017
0.200	-0.146
0.250	-0.182
0.300	-0.199
0.350	-0.217
0.400	-0.232
0.450	-0.213
0.500	-0.158
0.550	-0.097
0.600	-0.009
0.650	0.071
0.700	0.155
0.750	0.223
0.800	0.256
0.850	0.267
0.900	0.265
0.950	0.244

UNSTEADY DATA

CPL/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	-0.046	-0.005	0.046	-174.09
0.100	-0.030	-0.009	0.031	-162.47
0.200	-0.013	-0.013	0.018	-135.00
0.300	-0.005	-0.014	0.015	-108.44
0.400	-0.006	-0.011	0.012	-119.05
0.500	-0.004	-0.015	0.015	-104.04
0.600	-0.007	-0.013	0.014	-119.74
0.700	-0.004	-0.005	0.007	-123.69
0.750	-0.002	-0.002	0.003	-135.00
0.800	0.0	-0.002	0.002	-90.00
0.850	-0.002	0.004	0.005	116.57
0.900	-0.002	0.002	0.003	135.00
0.950	-0.002	0.004	0.005	116.56

TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 4

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 25

M	0.500	PTOT	0.900 BAR	K	0.336
ALPHA	3.000 DEG.	QINF	0.133 BAR	FREQ	12.0 HZ
RE	0.134D+08	T0	297.850 DEG. K	Y/S	0.479

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.020	-1.722
0.050	-1.175
0.100	-0.908
0.200	-0.773
0.250	-0.676
0.300	-0.613
0.325	-0.594
0.350	-0.573
0.375	-0.560
0.400	-0.543
0.425	-0.533
0.450	-0.531
0.500	-0.508
0.550	-0.493
0.600	-0.471
0.650	-0.418
0.720	-0.405
0.800	-0.288
0.910	-0.092
0.950	-0.031
0.970	0.010
1.000	0.066

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.061	0.035	0.070	29.43
0.100	0.058	0.040	0.070	34.51
0.200	0.035	0.032	0.047	42.40
0.300	0.026	0.021	0.034	39.09
0.350	0.027	0.030	0.040	48.65
0.400	0.021	0.019	0.028	40.92
0.450	0.008	0.029	0.030	74.05
0.500	0.020	0.024	0.031	50.91
0.600	0.025	0.011	0.027	23.20
0.650	0.007	0.010	0.013	56.31
0.690	0.005	0.012	0.013	69.44
0.700	0.0	0.004	0.004	90.00
0.730	0.002	0.023	0.023	85.24
0.750	0.005	0.004	0.007	33.69
0.930	-0.006	0.0	0.006	180.00
0.950	-0.005	-0.002	0.006	-161.57
0.970	-0.004	0.0	0.004	180.00

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.486
0.050	0.263
0.100	0.065
0.200	-0.149
0.250	-0.147
0.300	-0.165
0.350	-0.179
0.400	-0.184
0.450	-0.169
0.500	-0.114
0.550	-0.032
0.600	0.044
0.650	0.139
0.700	0.213
0.750	0.264
0.800	0.292
0.910	0.283
0.950	0.252

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	-0.037	-0.026	0.045	-144.46
0.100	-0.016	-0.013	0.021	-141.34
0.200	0.003	-0.007	0.008	-68.20
0.300	0.015	-0.006	0.017	-22.62
0.400	0.028	0.003	0.029	5.44
0.500	0.025	0.001	0.025	2.60
0.600	0.026	-0.015	0.031	-30.47
0.700	0.007	-0.017	0.018	-66.04
0.800	0.006	-0.011	0.013	-63.43
0.930	0.004	-0.014	0.015	-74.05
0.970	0.006	-0.009	0.011	-56.31

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.5550	0.0087	-0.0235	UNCORRECTED
CM	-0.0876	-0.0025	0.0031	

TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 6

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 25

M	0.500	PTOT	0.900 BAR	K	0.336
ALPHA	3.000 DEG.	QINF	0.133 BAR	FREQ	12.0 HZ
RE	0.134D+08	T0	297.850 DEG. K	Y/S	0.566

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.020	-1.585
0.050	-1.122
0.100	-0.880
0.150	-0.764
0.200	-0.719
0.250	-0.648
0.300	-0.596
0.325	-0.573
0.350	-0.555
0.375	-0.546
0.400	-0.532
0.425	-0.522
0.450	-0.513
0.475	-0.502
0.500	-0.499
0.550	-0.458
0.600	-0.440
0.650	-0.402
0.740	-0.350
0.780	-0.298
0.820	-0.241
0.910	-0.104
0.950	-0.028
0.970	0.007
1.000	0.051

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	-0.017	-0.017	0.024	-135.00
0.100	0.033	0.025	0.041	36.87
0.200	0.027	0.010	0.029	20.22
0.300	0.028	0.010	0.030	19.44
0.350	0.031	0.017	0.035	29.36
0.400	0.024	0.016	0.029	33.69
0.450	0.028	0.015	0.032	28.81
0.500	0.025	0.014	0.029	29.36
0.600	-0.004	0.004	0.006	135.00
0.630	0.014	-0.006	0.015	-23.20
0.690	-0.005	0.013	0.014	113.20
0.700	-0.004	0.012	0.013	108.44
0.730	-0.006	0.006	0.008	135.00
0.750	-0.002	0.017	0.017	97.13
0.910	0.0	0.003	0.003	90.00
0.950	0.0	-0.002	0.002	-90.00
0.970	-0.003	0.0	0.003	180.00

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.521
0.050	0.243
0.100	0.067
0.200	-0.108
0.250	-0.139
0.300	-0.155
0.350	-0.163
0.400	-0.170
0.450	-0.150
0.500	-0.114
0.550	-0.027
0.600	0.046
0.650	0.131
0.700	0.200
0.750	0.259
0.800	0.284
0.850	0.297

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.012	-0.009	0.015	-35.54
0.100	0.018	0.0	0.018	0.0
0.200	0.036	0.005	0.036	7.43
0.300	0.049	0.0	0.049	0.0
0.400	0.043	-0.001	0.043	-1.79
0.500	0.041	-0.002	0.041	-2.20
0.600	0.006	0.0	0.006	0.0
0.700	0.010	-0.006	0.012	-33.69
0.800	-0.005	0.007	0.009	126.87
0.870	0.0	0.0	0.0	0.0
0.910	0.002	0.004	0.005	63.44
0.950	0.010	-0.002	0.010	-11.31

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.5087	0.0069	-0.0106	UNCORRECTED
CM	-0.0665	-0.0015	0.0021	

TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 8

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 25

M	0.500	PTOT	0.900 BAR	K	0.336
ALPHA	3.000 DEG.	QINF	0.133 BAR	FREQ	12.0 HZ
RE	0.134D+08	TO	297.850 DEG. K	Y/S	0.618

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.020	-1.553
0.050	-1.099
0.100	-0.864
0.150	-0.759
0.200	-0.706
0.250	-0.636
0.300	-0.581
0.325	-0.566
0.350	-0.548
0.375	-0.532
0.400	-0.530
0.425	-0.517
0.450	-0.508
0.475	-0.501
0.500	-0.499
0.550	-0.469
0.600	-0.440
0.650	-0.414
0.720	-0.369
0.760	-0.321
0.800	-0.268
0.830	-0.222
0.950	-0.009
0.970	0.094
1.000	0.053

UNSTEADY DATA

CPU/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.023	0.047	0.052	64.13
0.100	0.015	0.064	0.066	76.33
0.200	0.023	0.036	0.043	57.26
0.300	0.032	0.035	0.047	47.39
0.350	0.029	0.027	0.040	42.40
0.400	0.036	0.026	0.045	35.36
0.450	0.034	0.029	0.044	40.10
0.500	0.038	0.022	0.044	29.98
0.600	-0.015	0.016	0.022	131.99
0.650	-0.015	0.015	0.021	135.00
0.690	-0.002	0.005	0.005	108.43
0.730	0.015	-0.003	0.015	-12.53
0.750	-0.005	0.011	0.012	116.57
0.800	-0.002	0.002	0.002	135.00
0.970	0.0	0.002	0.002	90.00

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.531
0.050	0.236
0.100	0.064
0.150	-0.033
0.200	-0.103
0.250	-0.136
0.300	-0.148
0.350	-0.158
0.400	-0.158
0.450	-0.148
0.500	-0.114
0.550	-0.040
0.600	0.047
0.650	0.128
0.700	0.176
0.750	0.257
0.800	0.286

UNSTEADY DATA

CPL/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.029	0.016	0.033	28.81
0.100	0.028	0.008	0.029	16.70
0.200	0.053	-0.004	0.053	-4.18
0.300	0.063	-0.003	0.063	-2.86
0.400	0.063	-0.008	0.064	-6.95
0.500	0.055	-0.009	0.056	-9.25
0.600	0.062	-0.034	0.070	-28.74
0.700	0.022	-0.011	0.025	-26.57
0.800	0.013	-0.010	0.017	-36.87
0.970	0.006	-0.003	0.007	-26.56

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.4886	0.0244	-0.0280	UNCORRECTED
CM	-0.0570	-0.0058	0.0040	

TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 9

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 25

M	0.500	PTOT	0.900 BAR	K	0.336
ALPHA	3.000 DEG.	QINF	0.133 BAR	FREQ	12.0 HZ
RE	0.134D+08	TO	297.850 DEG. K	Y/S	0.665

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.020	-1.501
0.050	-1.093
0.100	-0.841
0.150	-0.752
0.200	-0.683
0.250	-0.622
0.300	-0.516
0.325	-0.555
0.350	-0.540
0.375	-0.525
0.400	-0.515
0.425	-0.506
0.450	-0.502
0.475	-0.495
0.500	-0.488
0.600	-0.401
0.630	-0.430
0.680	-0.379
0.720	-0.352
0.760	-0.308
0.800	-0.255
0.830	-0.208
0.910	-0.130
0.930	-0.037
0.970	0.004
1.000	0.046

UNSTEADY DATA

CPU/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.100	-0.058	0.116	-29.95
0.100	-0.048	0.091	0.103	117.82
0.200	0.017	0.040	0.043	67.07
0.300	0.025	0.022	0.034	41.42
0.350	0.026	0.021	0.033	39.09
0.400	0.027	0.024	0.036	41.42
0.450	-0.030	0.007	0.031	166.61
0.500	0.036	0.012	0.038	18.43
0.600	0.024	-0.004	0.024	-10.31
0.680	0.021	-0.003	0.022	-7.59
0.700	0.025	-0.005	0.025	-12.09
0.730	-0.007	-0.014	0.016	-116.57
0.810	-0.007	-0.003	0.008	-153.44
0.870	0.0	-0.002	0.002	-90.00
0.910	0.004	-0.018	0.019	-77.47
0.930	0.002	-0.011	0.011	-80.54
0.950	-0.008	0.006	0.010	141.34

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.524
0.050	0.207
0.100	0.067
0.150	-0.039
0.200	-0.108
0.250	-0.139
0.300	-0.152
0.350	-0.158
0.400	-0.163
0.450	-0.153
0.500	-0.119
0.600	0.050
0.650	0.123
0.700	0.199
0.750	0.251
0.850	0.292
0.910	0.282
0.950	0.255

UNSTEADY DATA

CPL/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.086	-0.078	0.116	-42.27
0.100	0.028	-0.035	0.045	-51.84
0.200	0.092	-0.033	0.097	-19.54
0.300	0.075	-0.032	0.082	-22.99
0.400	0.083	-0.009	0.083	-6.07
0.500	0.082	-0.018	0.084	-12.09
0.600	0.024	-0.003	0.024	-8.13
0.700	0.006	-0.013	0.015	-66.04
0.800	0.019	-0.002	0.019	-6.34
0.870	0.020	0.002	0.020	5.19
0.950	0.017	0.002	0.017	7.13

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.5160	0.0360	-0.0289	UNCORRECTED
CM	-0.0833	-0.0039	-0.0012	

TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 11

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 25

M	0.500	PTOT	0.900 BAR	K	0.336
ALPHA	3.000 DEG.	QINF	0.133 BAR	FREQ	12.0 HZ
RE	0.134D+08	TO	297.850 DEG. K	Y/S	0.751

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.100	-0.807
0.200	-0.655
0.250	-0.603
0.300	-0.559
0.325	-0.539
0.350	-0.526
0.375	-0.515
0.400	-0.503
0.425	-0.500
0.450	-0.492
0.475	-0.488
0.500	-0.497
0.550	-0.442
0.600	-0.439
0.634	-0.414
0.680	-0.384
0.720	-0.349
0.800	-0.250
0.830	-0.216
0.910	-0.080
0.950	-0.032
0.970	0.007
1.000	0.072

UNSTEADY DATA

		CPU/RAD		
X/C	REAL	IMAG	MAG	PHASE
0.050	-0.144	0.146	0.205	134.63
0.100	-0.049	0.103	0.114	115.16
0.200	-0.006	0.057	0.058	96.17
0.300	0.007	0.045	0.046	81.38
0.350	0.014	0.037	0.039	68.55
0.400	0.004	0.027	0.027	80.54
0.450	0.009	0.026	0.027	70.56
0.500	0.012	0.025	0.027	63.43
0.600	-0.012	0.006	0.013	153.43
0.630	-0.006	0.017	0.018	110.56
0.680	0.002	0.002	0.002	45.00
0.700	0.005	-0.005	0.007	-45.00
0.730	0.017	-0.004	0.018	-12.53
0.750	0.017	-0.011	0.021	-33.69
0.800	0.022	-0.013	0.026	-30.26
0.910	0.028	-0.010	0.029	-19.65
0.930	0.031	-0.009	0.032	-15.95
0.950	0.030	-0.011	0.032	-21.04
0.970	0.034	-0.011	0.036	-18.43

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.208
0.050	0.166
0.100	0.032
0.200	-0.118
0.250	-0.151
0.300	-0.163
0.350	-0.164
0.400	-0.153
0.450	-0.151
0.500	-0.121
0.550	-0.041
0.600	0.035
0.700	0.195
0.750	0.251
0.910	0.278
0.950	0.253

UNSTEADY DATA

		CPL/RAD		
X/C	REAL	IMAG	MAG	PHASE
0.050	0.106	-0.070	0.127	-33.31
0.100	0.104	-0.046	0.113	-23.96
0.200	0.126	-0.021	0.127	-9.69
0.300	0.125	-0.024	0.128	-10.89
0.400	0.137	0.0	0.137	0.0
0.500	0.135	-0.012	0.136	-5.04
0.600	0.057	-0.017	0.060	-16.86
0.700	0.136	-0.010	0.136	-4.01
0.800	0.145	-0.028	0.148	-10.95
0.910	0.096	-0.008	0.097	-4.86
0.950	0.085	-0.011	0.086	-7.70

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.4112	0.1064	-0.0417	UNCORRECTED
CM	-0.1003	-0.0225	0.0009	

TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 13

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 25

M	0.500	PTOT	0.900 BAR	K	0.336
ALPHA	3.000 DEG.	QINF	0.133 BAR	FREQ	12.0 HZ
RE	0.134D+08	TO	297.850 DEG. K	Y/S	0.854

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.010	-0.922
0.020	-1.193
0.030	-1.117
0.050	-0.999
0.100	-0.754
0.150	-0.650
0.200	-0.604
0.250	-0.553
0.300	-0.519
0.350	-0.484
0.375	-0.484
0.400	-0.478
0.425	-0.472
0.450	-0.459
0.475	-0.450
0.500	-0.447
0.575	-0.409
0.600	-0.379
0.650	-0.346
0.675	-0.314
0.700	-0.310
0.750	-0.264
0.800	-0.266
0.850	-0.198
0.900	-0.125
0.950	-0.033
1.000	0.076

UNSTEADY DATA

		CPU/RAD		
X/C	REAL	IMAG	MAG	PHASE
0.050	-0.288	0.296	0.412	134.22
0.100	-0.203	0.185	0.275	137.76
0.200	-0.137	0.118	0.180	139.14
0.300	-0.144	0.084	0.167	149.78
0.350	-0.171	0.074	0.186	156.74
0.400	-0.190	0.065	0.200	161.13
0.450	-0.248	0.061	0.255	166.15
0.500	-0.284	0.056	0.289	168.77
0.650	-0.718	-0.023	0.718	-178.17
0.700	-0.965	-0.030	0.966	-178.20
0.720	-1.247	-0.040	1.247	-178.18
0.820	-1.246	-0.126	1.252	-174.23
0.910	-0.246	-0.112	0.270	-155.48
0.950	0.038	-0.042	0.057	-47.86

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.383
0.010	0.564
0.030	0.198
0.050	0.073
0.200	-0.135
0.300	-0.170
0.400	-0.160
0.500	-0.107
0.600	-0.039
0.700	0.159
0.800	0.285
0.850	0.296
0.900	0.285
0.950	0.254

UNSTEADY DATA

		CPL/RAD		
X/C	REAL	IMAG	MAG	PHASE
0.050	0.318	-0.112	0.337	-19.33
0.100	0.302	-0.083	0.313	-15.45
0.200	0.326	-0.043	0.329	-7.52
0.300	0.385	-0.024	0.386	-3.52
0.400	0.448	-0.008	0.448	-1.01
0.500	0.511	0.021	0.511	2.32
0.600	0.605	0.024	0.606	2.25
0.800	1.204	0.163	1.215	7.72

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.4504	0.9827	0.0003	UNCORRECTED
CM	-0.0758	-0.3683	-0.0395	

TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 14

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 25

M	0.500	PTOT	0.900 BAR	K	0.336	DELTM	0.0 DEG.
ALPHA	3.000 DEG.	QINF	0.133 BAR	FREQ	12.0 HZ		
RE	0.134D+08	TO	297.850 DEG. K	Y/S	0.885		

UPPER SURFACE

STEADY DATA

X/C	CPU
0.010	-0.840
0.020	-1.010
0.030	-1.011
0.050	-0.935
0.100	-0.730
0.200	-0.577
0.250	-0.511
0.300	-0.482
0.350	-0.469
0.375	-0.451
0.400	-0.449
0.425	-0.442
0.450	-0.436
0.475	-0.425
0.500	-0.404
0.525	-0.392
0.550	-0.385
0.575	-0.370
0.600	-0.340
0.625	-0.313
0.675	-0.304
0.700	-0.309
0.750	-0.265
0.850	-0.183
0.900	-0.105
0.950	-0.019
1.000	0.079

UNSTEADY DATA

CPU/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	-0.442	0.140	0.463	162.45
0.100	-0.277	0.093	0.292	161.48
0.140	-0.287	0.093	0.302	162.07
0.200	-0.218	0.068	0.228	162.73
0.250	-0.238	0.055	0.244	166.89
0.300	-0.246	0.054	0.252	167.61
0.350	-0.277	0.054	0.282	168.88
0.400	-0.337	0.034	0.338	174.32
0.450	-0.383	0.046	0.386	173.22
0.500	-0.454	0.020	0.454	177.50
0.550	-0.728	-0.031	0.729	-177.53
0.600	-0.863	-0.045	0.864	-177.02
0.700	-1.881	-0.127	1.886	-176.14
0.800	-1.909	-0.179	1.918	-174.64
0.900	-0.002	-0.142	0.142	-90.80

LOWER SURFACE

STEADY DATA

X/C	CPL
0.0	0.497
0.010	-0.017
0.030	0.142
0.050	0.026
0.300	-0.184
0.400	-0.171
0.500	-0.142
0.600	-0.039
0.700	0.155
0.800	0.266
0.850	0.285
0.900	0.276
0.950	0.252

UNSTEADY DATA

CPL/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.444	-0.048	0.447	-6.12
0.100	0.389	-0.027	0.390	-3.92
0.200	0.453	-0.022	0.453	-2.74
0.300	0.534	-0.013	0.535	-1.39
0.400	0.613	0.0	0.613	0.0
0.500	0.711	0.029	0.712	2.30
0.700	1.096	0.060	1.098	3.14
0.850	1.204	0.232	1.226	10.90

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.3834	1.3027	0.0511	UNCORRECTED
CM	-0.0728	-0.4532	-0.0456	

TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 15

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 25

M	0.500	PTOT	0.900 BAR	K	0.336	DELTM	0.0 DEG.
ALPHA	3.000 DEG.	QINF	0.133 BAR	FREQ	12.0 HZ		
RE	0.134D+08	TO	297.850 DEG. K	Y/S	0.944		

UPPER SURFACE

STEADY DATA

X/C	CPU
0.010	-0.329
0.020	-0.879
0.030	-0.910
0.050	-0.832
0.100	-0.713
0.150	-0.593
0.200	-0.522
0.250	-0.463
0.300	-0.435
0.350	-0.428
0.375	-0.423
0.400	-0.405
0.425	-0.401
0.450	-0.391
0.475	-0.390
0.500	-0.384
0.525	-0.362
0.575	-0.348
0.600	-0.325
0.650	-0.292
0.675	-0.277
0.700	-0.265
0.750	-0.264
0.800	-0.253
0.850	-0.164
0.900	-0.100
0.950	-0.021
1.000	0.079

UNSTEADY DATA

CPU/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	-0.729	0.273	0.778	159.49
0.100	-0.549	0.198	0.584	160.17
0.140	-0.425	0.141	0.448	161.71
0.200	-0.348	0.122	0.368	160.59
0.250	-0.392	0.125	0.411	162.27
0.300	-0.367	0.087	0.377	166.62
0.350	-0.398	0.087	0.407	167.74
0.400	-0.456	0.087	0.464	169.18
0.450	-0.535	0.091	0.542	170.37
0.500	-0.609	0.061	0.612	174.27
0.550	-0.492	0.071	0.498	171.83
0.600	-0.591	0.063	0.594	173.91
0.650	-0.806	0.065	0.809	175.39
0.700	-0.927	0.037	0.928	177.73
0.850	-1.100	-0.102	1.104	-174.68
0.900	-0.513	-0.092	0.521	-169.78

LOWER SURFACE

STEADY DATA

X/C	CPL
0.0	0.593
0.030	0.018
0.100	-0.052
0.200	-0.175
0.300	-0.197
0.400	-0.168
0.500	-0.148
0.600	-0.047
0.700	0.102
0.800	0.256
0.850	0.265
0.900	0.253
0.950	0.216

UNSTEADY DATA

CPL/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.754	-0.114	0.762	-8.58
0.100	0.589	-0.042	0.591	-4.10
0.200	0.645	0.002	0.645	0.15
0.400	0.770	0.045	0.772	3.34
0.500	0.867	0.082	0.871	5.43
0.600	0.574	-0.084	0.580	-8.29
0.700	1.147	0.097	1.151	4.83
0.800	1.633	0.222	1.649	7.75
0.850	0.751	0.150	0.766	11.29

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.3561	1.2125	-0.0210	UNCORRECTED
CM	-0.0649	-0.3389	-0.0217	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 1

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 97

M	0.780	PTOT	0.900 BAR	K	0.375
ALPHA	0.0 DEG.	QINF	0.255 BAR	FREQ	21.0 HZ
RE	0.163D+08	TO	322.650 DEG. K	Y/S	0.254

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.010	-0.509
0.020	-0.892
0.030	-0.930
0.050	-0.838
0.100	-0.803
0.150	-0.740
0.200	-0.712
0.250	-0.754
0.300	-0.683
0.350	-0.606
0.375	-0.606
0.400	-0.599
0.425	-0.549
0.450	-0.530
0.475	-0.507
0.500	-0.478
0.525	-0.446
0.550	-0.413
0.575	-0.373
0.600	-0.345
0.625	-0.318
0.650	-0.283
0.675	-0.264
0.700	-0.239
0.750	-0.186
0.800	-0.130
0.850	-0.076
0.900	-0.006
0.950	0.079
1.000	0.179

UNSTEADY DATA

CPU/RAD

X/C	REAL	IMAG	MAG	PHASE
0.100	-0.002	-0.039	0.039	-93.50
0.200	0.006	-0.049	0.049	-83.16
0.300	-0.042	0.038	0.056	137.86
0.350	-0.074	-0.062	0.096	-139.82
0.400	-0.022	-0.064	0.068	-109.26
0.450	-0.004	-0.067	0.067	-93.72
0.500	0.0	-0.043	0.043	-90.00
0.600	0.017	-0.023	0.028	-53.84
0.650	0.012	-0.014	0.019	-49.08
0.700	0.013	-0.014	0.019	-46.98
0.720	0.014	-0.010	0.017	-33.69
0.750	0.016	-0.011	0.019	-35.22
0.800	0.020	-0.007	0.021	-19.18
0.850	0.014	-0.011	0.018	-38.66
0.900	0.015	-0.009	0.017	-32.01
0.950	0.015	-0.006	0.016	-20.56
0.970	0.010	-0.012	0.016	-49.09

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.762
0.010	0.480
0.030	0.179
0.050	0.018
0.100	-0.215
0.200	-0.458
0.300	-0.526
0.400	-0.526
0.500	-0.370
0.600	-0.173
0.700	0.006
0.800	0.125
0.850	0.155
0.900	0.177
0.950	0.188

UNSTEADY DATA

CPL/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.0	0.015	0.015	90.00
0.100	0.0	0.006	0.006	90.00
0.200	-0.009	-0.003	0.009	-158.20
0.300	-0.017	-0.017	0.024	-135.00
0.400	-0.005	-0.023	0.023	-103.39
0.500	-0.003	-0.019	0.019	-97.77
0.600	0.002	-0.018	0.018	-84.56
0.700	0.004	-0.016	0.017	-76.76
0.750	0.006	-0.009	0.011	-56.31
0.800	-0.002	-0.011	0.011	-98.13
0.850	0.010	-0.009	0.013	-41.99
0.900	0.006	-0.005	0.008	-40.60
0.950	0.005	-0.006	0.007	-50.19

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.2454	-0.0013	0.0109	UNCORRECTED
CM	-0.0204	0.0018	-0.0008	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 2

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 97

M	0.780	PTOT	0.900 BAR	K	0.375
ALPHA	0.0 DEG.	QINF	0.255 BAR	FREQ	21.0 HZ
RE	0.163D+08	TO	322.650 DEG. K	Y/S	0.353

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY D. TA

X/C	CPU
0.020	-0.943
0.050	-0.842
0.100	-0.741
0.140	-0.775
0.200	-0.716
0.250	-0.690
0.300	-0.657
0.325	-0.625
0.350	-0.609
0.375	-0.599
0.425	-0.551
0.450	-0.519
0.475	-0.501
0.500	-0.527
0.550	-0.522
0.650	-0.438
0.700	-0.389
0.750	-0.300
0.800	-0.254
0.850	-0.185
0.900	-0.089
0.950	0.024
1.000	0.145

UNSTEADY DATA

CPU/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.017	0.019	0.025	48.81
0.100	0.010	0.051	0.052	79.25
0.200	0.068	0.059	0.090	40.70
0.300	0.056	0.328	0.333	80.38
0.350	-0.178	0.017	0.179	174.46
0.400	-0.052	0.055	0.076	133.39
0.450	0.077	0.040	0.087	27.81
0.500	0.029	0.011	0.031	19.80
0.600	0.016	-0.004	0.017	-14.04
0.650	0.019	0.0	0.019	0.0
0.700	0.022	0.002	0.022	5.44
0.720	0.023	0.008	0.024	19.29
0.750	0.017	0.005	0.018	17.35
0.800	0.020	0.007	0.021	18.43
0.850	0.020	0.011	0.023	27.55
0.900	0.023	0.011	0.026	24.23
0.950	0.015	0.008	0.017	28.07
0.970	0.025	0.004	0.025	9.46

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.713
0.050	-0.087
0.100	-0.308
0.140	-0.357
0.200	-0.549
0.250	-0.591
0.300	-0.613
0.350	-0.609
0.400	-0.629
0.450	-0.531
0.500	-0.378
0.550	-0.247
0.600	-0.108
0.650	0.009
0.700	0.115
0.750	0.199
0.800	0.251
0.850	0.277
0.900	0.286
0.950	0.271

UNSTEADY DATA

CPL/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.053	-0.003	0.053	-3.58
0.100	0.053	-0.015	0.055	-15.48
0.200	0.050	-0.029	0.058	-30.50
0.300	0.057	-0.029	0.064	-26.89
0.400	0.069	-0.017	0.071	-13.67
0.500	0.013	0.013	0.019	45.00
0.600	0.020	0.009	0.022	25.46
0.700	0.018	-0.001	0.018	-3.01
0.750	0.028	0.011	0.030	22.17
0.800	0.024	0.008	0.026	18.43
0.850	0.020	0.001	0.020	3.37
0.900	0.025	0.001	0.025	2.12
0.950	0.0	0.015	0.015	90.00

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.2918	0.0160	-0.0502	UNCORRECTED
CM	-0.0689	-0.0009	0.0006	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 4

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 97

M	0.780	PTOT	0.900 BAR	K	0.375	DELTM	0.0 DEG.
ALPHA	0.0 DEG.	QINF	0.255 BAR	FREQ	21.0 HZ		
RE	0.163D+08	TO	322.650 DEG. K	Y/S	0.479		

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.020	-0.586
0.050	-0.640
0.100	-0.595
0.200	-0.697
0.250	-0.602
0.300	-0.556
0.325	-0.540
0.350	-0.522
0.375	-0.523
0.400	-0.520
0.425	-0.520
0.450	-0.532
0.500	-0.527
0.550	-0.546
0.600	-0.512
0.650	-0.451
0.720	-0.449
0.800	-0.290
0.910	-0.065
0.950	0.002
0.970	0.041
1.000	0.089

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.037	-0.005	0.037	-7.59
0.100	0.052	-0.015	0.054	-16.22
0.200	-0.060	0.037	0.070	147.93
0.300	0.073	-0.080	0.108	-47.57
0.350	0.048	-0.026	0.054	-28.66
0.400	0.039	0.003	0.040	4.32
0.450	0.006	0.024	0.024	76.37
0.500	0.039	-0.002	0.039	-3.50
0.600	0.003	0.012	0.012	77.01
0.650	-0.003	0.0	0.003	180.00
0.690	-0.016	-0.030	0.034	-117.76
0.700	-0.011	-0.024	0.026	-115.56
0.730	-0.006	0.003	0.007	153.44
0.750	-0.004	-0.017	0.018	-102.53
0.930	0.004	-0.012	0.012	-71.57
0.950	0.007	-0.013	0.015	-63.43
0.970	0.015	-0.009	0.018	-29.74

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.788
0.050	-0.192
0.100	-0.382
0.200	-0.585
0.250	-0.624
0.300	-0.587
0.350	-0.557
0.400	-0.513
0.450	-0.422
0.500	-0.291
0.550	-0.146
0.600	-0.021
0.650	0.087
0.700	0.165
0.750	0.222
0.800	0.266
0.910	0.294
0.950	0.269

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.005	0.010	0.012	61.93
0.100	0.011	0.012	0.016	47.12
0.200	0.012	0.007	0.014	32.00
0.300	0.020	-0.017	0.026	-39.81
0.400	0.044	-0.013	0.046	-16.19
0.500	0.027	-0.011	0.029	-22.89
0.600	0.021	-0.024	0.032	-49.09
0.700	0.008	-0.020	0.022	-69.15
0.800	0.009	-0.010	0.013	-48.01
0.930	-0.008	-0.001	0.008	-172.87
0.970	0.0	0.001	0.001	90.00

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.2852	0.0019	0.0018	UNCORRECTED
CM	-0.0929	-0.0008	-0.0003	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 6

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 97

M	0.780	PTOT	0.900 BAR	K	0.375	DELTM	0.0 DEG.
ALPHA	0.0 DEG.	QINF	0.255 BAR	FREQ	21.0 HZ		
RE	0.163D+08	TO	322.650 DEG. K	Y/S	0.566		

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.020	-0.457
0.050	-0.552
0.100	-0.551
0.150	-0.566
0.200	-0.601
0.250	-0.549
0.300	-0.520
0.325	-0.512
0.350	-0.513
0.375	-0.507
0.400	-0.507
0.425	-0.508
0.450	-0.515
0.475	-0.510
0.500	-0.514
0.550	-0.497
0.600	-0.472
0.650	-0.434
0.740	-0.374
0.780	-0.306
0.820	-0.235
0.910	-0.068
0.950	0.007
0.970	0.042
1.000	0.080

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.073	-0.049	0.088	-33.96
0.100	0.055	-0.055	0.078	-45.00
0.200	0.148	-0.084	0.170	-29.56
0.300	0.073	-0.009	0.073	-6.79
0.350	0.052	-0.003	0.053	-3.30
0.400	0.045	0.0	0.045	0.0
0.450	0.034	-0.013	0.036	-21.37
0.500	0.054	-0.010	0.054	-10.30
0.600	0.009	0.037	0.038	76.37
0.630	0.007	-0.007	0.010	-45.00
0.690	-0.002	0.039	0.039	92.79
0.700	-0.007	0.038	0.039	101.00
0.730	-0.006	0.032	0.032	100.30
0.750	-0.016	0.038	0.041	112.38
0.910	-0.010	0.020	0.023	116.57
0.950	-0.006	0.013	0.014	115.02
0.970	0.0	0.012	0.012	90.00

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.793
0.050	-0.243
0.100	-0.399
0.200	-0.616
0.250	-0.580
0.300	-0.554
0.350	-0.511
0.400	-0.469
0.450	-0.386
0.500	-0.276
0.550	-0.140
0.600	-0.021
0.650	0.081
0.700	0.154
0.750	0.208
0.800	0.248
0.850	0.275

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.074	0.028	0.079	20.48
0.100	0.039	0.007	0.039	10.31
0.200	0.050	0.007	0.051	8.39
0.300	0.017	-0.021	0.027	-50.19
0.400	0.054	-0.018	0.057	-18.21
0.500	0.033	-0.022	0.040	-33.37
0.600	0.007	0.007	0.010	45.00
0.700	-0.011	-0.013	0.017	-129.09
0.800	0.004	-0.003	0.005	-36.87
0.870	0.004	0.001	0.004	14.04
0.910	0.001	-0.001	0.002	-45.00
0.950	-0.001	-0.002	0.002	-116.57

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.2226	-0.0146	-0.0019	UNCORRECTED
CM	-0.0716	-0.0020	0.0088	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 8

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 97

M	0.780	PTOT	0.900 BAR	K	0.375	DELTM	0.0 DEG.
ALPHA	0.0 DEG.	QINF	0.255 BAR	FREQ	21.0 HZ		
RE	0.163D+08	TO	322.650 DEG. K	Y/S	0.618		

----------< UPPER SURFACE >----------

STEADY DATA

X/C	CPU
0.020	-0.412
0.050	-0.507
0.100	-0.507
0.150	-0.532
0.200	-0.569
0.250	-0.534
0.300	-0.500
0.325	-0.494
0.350	-0.494
0.375	-0.494
0.400	-0.510
0.425	-0.508
0.450	-0.509
0.475	-0.511
0.500	-0.537
0.550	-0.502
0.600	-0.474
0.650	-0.441
0.720	-0.389
0.760	-0.325
0.800	-0.257
0.830	-0.204
0.950	-0.003
0.970	0.075
1.000	0.105

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.071	-0.066	0.097	-42.54
0.100	0.092	-0.030	0.096	-17.93
0.200	0.087	-0.027	0.091	-17.23
0.300	0.092	0.015	0.093	9.02
0.350	0.078	0.023	0.082	16.65
0.400	0.060	0.029	0.067	26.10
0.450	0.046	0.022	0.051	26.10
0.500	0.027	0.018	0.033	33.69
0.600	-0.022	0.037	0.043	120.58
0.650	-0.022	0.037	0.043	120.58
0.690	-0.030	0.027	0.040	138.27
0.730	-0.019	-0.011	0.022	-149.42
0.750	-0.021	0.026	0.033	129.17
0.800	-0.022	0.027	0.035	129.47
0.970	-0.021	0.017	0.027	140.19

----------< LOWER SURFACE >----------

STEADY DATA

X/C	CPL
0.0	0.794
0.050	-0.295
0.100	-0.415
0.150	-0.487
0.200	-0.572
0.250	-0.575
0.300	-0.544
0.350	-0.495
0.400	-0.457
0.450	-0.391
0.500	-0.289
0.550	-0.153
0.600	-0.021
0.650	0.075
0.700	0.131
0.750	0.202
0.800	0.243

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.037	0.019	0.042	26.56
0.100	0.043	0.014	0.045	18.14
0.200	0.073	0.002	0.073	1.59
0.300	0.073	-0.012	0.074	-9.57
0.400	0.069	-0.012	0.070	-10.01
0.500	0.062	-0.012	0.063	-11.07
0.600	0.047	-0.012	0.048	-14.93
0.700	0.008	0.012	0.014	56.31
0.800	0.015	0.016	0.022	48.18
0.970	0.0	0.012	0.012	90.00

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.1991	0.0137	-0.0096	UNCORRECTED
CM	-0.0643	-0.0100	0.0056	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 9

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 97

M	0.780	PTOT	0.900 BAR	K	0.375	DELTM	0.0 DEG.
ALPHA	0.0 DEG.	QINF	0.255 BAR	FREQ	21.0 HZ		
RE	0.163D+08	TO	322.650 DEG. K	Y/S	0.665		

----------< UPPER SURFACE >----------

STEADY DATA

X/C	CPU
0.020	-0.365
0.050	-0.493
0.100	-0.483
0.150	-0.537
0.200	-0.526
0.250	-0.499
0.300	-0.434
0.325	-0.488
0.350	-0.481
0.375	-0.487
0.400	-0.492
0.425	-0.491
0.450	-0.501
0.475	-0.508
0.500	-0.511
0.600	-0.432
0.630	-0.436
0.680	-0.441
0.720	-0.388
0.760	-0.325
0.800	-0.259
0.830	-0.206
0.910	-0.093
0.930	-0.001
0.970	0.036
1.000	0.081

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.115	0.019	0.117	9.18
0.100	0.081	0.001	0.081	0.93
0.200	0.087	-0.026	0.091	-16.84
0.300	0.083	-0.018	0.085	-12.13
0.350	0.082	-0.010	0.082	-6.98
0.400	0.080	-0.003	0.080	-2.36
0.450	-0.005	0.043	0.043	96.01
0.500	0.047	0.021	0.052	23.46
0.600	0.0	-0.030	0.030	-90.00
0.680	0.009	-0.011	0.014	-51.34
0.700	0.006	-0.017	0.018	-68.75
0.730	-0.041	-0.005	0.041	-173.52
0.810	-0.034	0.003	0.034	175.60
0.870	-0.022	-0.003	0.022	-172.57
0.910	-0.026	-0.012	0.028	-155.38
0.930	-0.017	-0.008	0.019	-156.04
0.950	0.0	-0.001	0.001	-90.00

----------< LOWER SURFACE >----------

STEADY DATA

X/C	CPL
0.0	0.789
0.050	-0.357
0.100	-0.389
0.150	-0.487
0.200	-0.584
0.250	-0.589
0.300	-0.537
0.350	-0.499
0.400	-0.463
0.450	-0.393
0.500	-0.291
0.600	-0.023
0.650	0.073
0.700	0.148
0.750	0.200
0.850	0.271
0.910	0.284
0.950	0.262

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.002	-0.011	0.011	-79.38
0.100	0.028	0.007	0.029	13.39
0.200	0.061	-0.030	0.068	-26.27
0.300	0.084	-0.032	0.090	-20.96
0.400	0.079	-0.036	0.087	-24.39
0.500	0.083	-0.016	0.084	-11.00
0.600	0.018	-0.006	0.019	-19.29
0.700	-0.007	0.004	0.008	150.95
0.800	0.019	-0.007	0.020	-19.44
0.870	0.011	-0.006	0.013	-26.57
0.950	0.013	0.002	0.014	9.46

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.2223	0.0088	-0.0070	UNCORRECTED
CM	-0.0899	-0.0084	0.0006	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 11

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 97

M	0.780	PTOT	0.900 BAR	K	0.375
ALPHA	0.0 DEG.	QINF	0.255 BAR	FREQ	21.0 HZ
RE	0.163D+08	TO	322.650 DEG. K	Y/S	0.751

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY DATA		UNSTEADY DATA				
			CPU/RAD			
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE
0.100	-0.439	0.050	0.146	0.010	0.147	3.81
0.200	-0.477	0.100	0.137	-0.002	0.137	-1.02
0.250	-0.481	0.200	0.114	0.016	0.115	8.07
0.300	-0.478	0.300	0.100	0.019	0.102	10.52
0.325	-0.466	0.350	0.097	0.018	0.099	10.38
0.350	-0.462	0.400	0.084	0.020	0.087	13.11
0.375	-0.469	0.450	0.067	0.025	0.071	20.85
0.400	-0.473	0.500	0.050	0.027	0.057	28.35
0.425	-0.480	0.600	-0.015	0.018	0.023	129.81
0.450	-0.482	0.630	-0.027	0.012	0.029	155.38
0.475	-0.486	0.680	-0.023	-0.004	0.023	-169.51
0.500	-0.513	0.700	-0.018	-0.014	0.023	-142.69
0.550	-0.448	0.730	-0.014	-0.019	0.023	-126.38
0.600	-0.479	0.750	-0.011	-0.019	0.022	-120.07
0.634	-0.451	0.800	0.005	-0.028	0.028	-80.22
0.680	-0.406	0.910	0.030	-0.008	0.031	-15.42
0.720	-0.364	0.930	0.032	-0.006	0.033	-10.12
0.800	-0.247	0.950	0.036	-0.006	0.036	-9.46
0.830	-0.205	0.970	0.042	-0.004	0.042	-5.44
0.910	-0.056					
0.950	-0.002					
0.970	0.037					
1.000	0.102					

< LOWER SURFACE >

STEADY DATA		UNSTEADY DATA				
			CPL/RAD			
X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.0	0.781	0.050	0.081	-0.102	0.130	-51.67
0.050	-0.452	0.100	0.099	-0.086	0.131	-41.01
0.100	-0.457	0.200	0.046	-0.085	0.096	-61.73
0.200	-0.614	0.300	0.180	-0.085	0.199	-25.27
0.250	-0.614	0.400	0.161	-0.079	0.180	-26.10
0.300	-0.552	0.500	0.195	-0.048	0.201	-13.75
0.350	-0.500	0.600	0.081	0.020	0.084	13.74
0.400	-0.435	0.700	0.148	-0.036	0.152	-13.70
0.450	-0.384	0.800	0.157	-0.045	0.163	-16.12
0.500	-0.292	0.910	0.109	-0.028	0.113	-14.30
0.550	-0.148	0.950	0.093	-0.025	0.097	-15.07
0.600	-0.034					
0.700	0.141					
0.750	0.191					
0.910	0.278					
0.950	0.264					

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.1549	0.0700	-0.0528	UNCORRECTED
CM	-0.0958	-0.0315	0.0055	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 13

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 97

M	0.780	PTOT	0.900 BAR	K	0.375
ALPHA	0.0 DEG.	QINF	0.255 BAR	FREQ	21.0 HZ
RE	0.163D+08	TO	322.650 DEG. K	Y/S	0.854

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY DATA		UNSTEADY DATA				
			CPU/RAD			
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE
0.010	0.213	0.050	0.141	0.068	0.157	25.66
0.020	-0.156	0.100	0.113	0.049	0.123	23.44
0.030	-0.243	0.200	0.043	0.066	0.079	56.89
0.050	-0.337	0.300	-0.002	0.069	0.069	92.07
0.100	-0.370	0.350	-0.038	0.070	0.080	118.84
0.150	-0.392	0.400	-0.091	0.074	0.118	140.83
0.200	-0.424	0.450	-0.150	0.061	0.162	157.90
0.250	-0.418	0.500	-0.247	0.064	0.255	165.52
0.300	-0.416	0.650	-0.781	-0.010	0.781	-179.28
0.350	-0.415	0.700	-1.103	-0.053	1.105	-177.27
0.375	-0.430	0.720	-1.459	-0.088	1.462	-176.53
0.400	-0.441	0.820	-1.443	-0.309	1.475	-167.90
0.425	-0.443	0.910	-0.237	-0.163	0.287	-145.38
0.450	-0.441	0.950	0.164	-0.102	0.194	-31.87
0.475	-0.443					
0.500	-0.453					
0.575	-0.421					
0.600	-0.393					
0.650	-0.356					
0.675	-0.318					
0.700	-0.314					
0.750	-0.256					
0.800	-0.272					
0.850	-0.201					
0.900	-0.109					
0.950	-0.008					
1.000	0.108					

< LOWER SURFACE >

STEADY DATA		UNSTEADY DATA				
			CPL/RAD			
X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.0	0.810	0.050	0.080	-0.171	0.189	-65.02
0.010	-0.080	0.100	0.139	-0.127	0.188	-42.27
0.030	-0.554	0.200	0.245	-0.138	0.281	-29.39
0.050	-0.644	0.300	0.419	-0.117	0.435	-15.64
0.200	-0.606	0.400	0.476	-0.076	0.482	-9.10
0.300	-0.539	0.500	0.585	-0.033	0.586	-3.25
0.400	-0.414	0.600	0.689	0.053	0.691	4.39
0.500	-0.266	0.800	1.105	0.135	1.113	6.96
0.600	-0.088					
0.700	0.115					
0.800	0.228					
0.850	0.267					
0.900	0.279					
0.950	0.261					

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.1029	0.9224	0.0068	UNCORRECTED
CM	-0.0916	-0.3892	-0.0476	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 14

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 97

M	0.780	PTOT	0.900 BAR	K	0.375	DELTM	0.0 DEG.
ALPHA	0.0 DEG.	QINF	0.255 BAR	FREQ	21.0 HZ		
RE	0.163D+08	TO	322.650 DEG. K	Y/S	0.885		

UPPER SURFACE

STEADY DATA

X/C	CPU
0.010	0.251
0.020	-0.017
0.030	-0.169
0.050	-0.285
0.100	-0.364
0.200	-0.408
0.250	-0.380
0.300	-0.387
0.350	-0.393
0.375	-0.386
0.400	-0.400
0.425	-0.403
0.450	-0.411
0.475	-0.414
0.500	-0.399
0.525	-0.397
0.550	-0.389
0.575	-0.373
0.600	-0.340
0.625	-0.313
0.675	-0.308
0.700	-0.322
0.750	-0.273
0.850	-0.186
0.900	-0.090
0.950	0.005
1.000	0.100

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.021	0.043	0.048	63.89
0.100	0.048	0.013	0.050	15.26
0.140	0.018	0.028	0.033	56.66
0.200	0.010	0.030	0.031	72.12
0.250	-0.024	0.035	0.042	124.33
0.300	-0.052	0.036	0.063	145.08
0.350	-0.099	0.041	0.107	157.58
0.400	-0.163	0.038	0.167	166.82
0.450	-0.249	0.029	0.251	173.35
0.500	-0.364	0.013	0.365	177.97
0.550	-0.702	-0.003	0.702	-179.73
0.600	-0.881	-0.036	0.881	-177.68
0.700	-2.258	-0.261	2.273	-173.41
0.800	-2.253	-0.433	2.294	-169.12
0.900	0.184	-0.375	0.418	-63.88

LOWER SURFACE

STEADY DATA

X/C	CPL
0.0	0.812
0.010	-0.038
0.030	-0.661
0.050	-0.728
0.300	-0.567
0.400	-0.413
0.500	-0.298
0.600	-0.108
0.700	0.119
0.800	0.209
0.850	0.248
0.900	0.263
0.950	0.256

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.387	-0.237	0.454	-31.43
0.100	0.306	-0.141	0.337	-24.78
0.200	0.465	-0.202	0.507	-23.52
0.300	0.670	-0.146	0.685	-12.27
0.400	0.744	-0.072	0.748	-5.50
0.500	0.941	0.022	0.941	1.33
0.700	1.061	0.140	1.070	7.51
0.850	1.280	0.286	1.311	12.60

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.0405	1.3289	0.0859	UNCORRECTED
CM	-0.0859	-0.5055	-0.0832	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 15

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 97

M	0.780	PTOT	0.900 BAR	K	0.375	DELTM	0.0 DEG.
ALPHA	0.0 DEG.	QINF	0.255 BAR	FREQ	21.0 HZ		
RE	0.163D+08	TO	322.650 DEG. K	Y/S	0.944		

UPPER SURFACE

STEADY DATA

X/C	CPU
0.010	0.491
0.020	0.078
0.030	-0.088
0.050	-0.248
0.100	-0.373
0.150	-0.375
0.200	-0.355
0.250	-0.337
0.300	-0.340
0.350	-0.349
0.375	-0.362
0.400	-0.357
0.425	-0.362
0.450	-0.364
0.475	-0.377
0.500	-0.381
0.525	-0.363
0.575	-0.356
0.600	-0.341
0.650	-0.314
0.675	-0.294
0.700	-0.307
0.750	-0.303
0.800	-0.314
0.850	-0.199
0.900	-0.116
0.950	-0.027
1.000	0.072

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	-0.011	0.142	0.142	94.62
0.100	-0.042	0.126	0.133	108.22
0.140	-0.074	0.123	0.144	120.92
0.200	-0.100	0.119	0.155	130.15
0.250	-0.147	0.111	0.184	143.13
0.300	-0.202	0.093	0.222	155.22
0.350	-0.253	0.074	0.264	163.68
0.400	-0.337	0.069	0.344	168.46
0.450	-0.434	0.050	0.437	173.40
0.500	-0.589	0.013	0.589	178.74
0.550	-0.532	0.031	0.533	176.63
0.600	-0.659	-0.012	0.659	-178.93
0.650	-0.839	-0.059	0.841	-175.99
0.700	-0.967	-0.140	0.977	-171.77
0.850	-1.060	-0.276	1.096	-165.39
0.900	-0.265	-0.179	0.320	-145.96

LOWER SURFACE

STEADY DATA

X/C	CPL
0.0	0.811
0.030	-0.134
0.100	-0.545
0.200	-0.598
0.300	-0.476
0.400	-0.342
0.500	-0.272
0.600	-0.106
0.700	0.083
0.800	0.206
0.850	0.230
0.900	0.235
0.950	0.206

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.676	-0.457	0.817	-34.07
0.100	0.338	-0.107	0.355	-17.55
0.200	0.728	-0.146	0.742	-11.34
0.400	0.823	0.020	0.823	1.38
0.500	1.065	0.093	1.069	5.00
0.600	1.748	0.024	1.748	0.80
0.700	1.132	0.187	1.147	9.36
0.800	1.305	0.300	1.339	12.95
0.850	0.674	0.256	0.721	20.84

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.1018	1.2220	0.0447	UNCORRECTED
CM	-0.0794	-0.3837	-0.0666	

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 1

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 90

M	0.780	PTOT	0.900 BAR	K	0.375	DELTM	-5.0 DEG.
ALPHA	0.0 DEG.	QINF	0.254 BAR	FREQ	21.0 HZ		
RE	0.163D+08	T0	322.550 DEG. K	Y/S	0.254		

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.010	-0.504
0.020	-0.899
0.030	-0.879
0.050	-0.838
0.100	-0.793
0.150	-0.731
0.200	-0.703
0.250	-0.749
0.300	-0.735
0.350	-0.610
0.375	-0.598
0.400	-0.602
0.425	-0.565
0.450	-0.529
0.475	-0.500
0.500	-0.476
0.525	-0.438
0.550	-0.418
0.575	-0.377
0.600	-0.349
0.625	-0.315
0.650	-0.278
0.675	-0.252
0.700	-0.236
0.750	-0.187
0.800	-0.129
0.850	-0.071
0.900	-0.002
0.950	0.078
1.000	0.177

UNSTEADY DATA

CPU/RAD

X/C	REAL	IMAG	MAG	PHASE
0.100	0.020	-0.004	0.021	-11.31
0.200	-0.010	0.025	0.027	111.04
0.300	0.044	-0.284	0.287	-81.21
0.350	0.041	-0.074	0.084	-60.95
0.400	0.136	-0.046	0.143	-18.63
0.450	0.080	0.031	0.086	21.58
0.500	0.059	0.042	0.072	35.54
0.600	0.022	0.005	0.023	13.50
0.650	0.021	0.004	0.021	10.30
0.700	0.017	0.007	0.019	22.83
0.720	0.018	0.005	0.019	14.74
0.750	0.017	0.004	0.018	11.89
0.800	0.018	0.002	0.018	5.71
0.850	0.009	0.003	0.009	18.43
0.900	0.015	0.003	0.015	10.62
0.950	0.006	0.001	0.007	8.13
0.970	0.004	0.005	0.006	50.19

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.759
0.010	0.482
0.030	0.176
0.050	0.021
0.100	-0.212
0.200	-0.458
0.300	-0.530
0.400	-0.543
0.500	-0.364
0.600	-0.168
0.700	0.011
0.800	0.126
0.850	0.162
0.900	0.182
0.950	0.187

UNSTEADY DATA

CPL/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.011	-0.018	0.021	-57.99
0.100	0.020	-0.011	0.023	-27.90
0.200	0.023	-0.007	0.024	-17.10
0.300	0.026	-0.005	0.026	-11.77
0.400	0.017	0.014	0.022	39.09
0.500	0.007	0.008	0.010	48.37
0.600	0.005	0.0	0.005	0.0
0.700	0.008	-0.001	0.008	-7.13
0.750	0.0	0.0	0.0	0.0
0.800	0.005	0.004	0.007	35.54
0.850	0.005	0.006	0.008	50.19
0.900	0.008	0.004	0.009	23.96
0.950	0.008	0.002	0.008	14.04

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.2460	-0.0158	0.0191	UNCORRECTED
CM	-0.0210	0.0049	-0.0008	

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 2

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 90

M	0.780	PTOT	0.900 BAR	K	0.375	DELTM	-5.0 DEG.
ALPHA	0.0 DEG.	QINF	0.254 BAR	FREQ	21.0 HZ		
RE	0.163D+08	T0	322.550 DEG. K	Y/S	0.353		

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.020	-0.944
0.050	-0.829
0.100	-0.731
0.140	-0.780
0.200	-0.721
0.250	-0.702
0.300	-0.661
0.325	-0.642
0.350	-0.606
0.375	-0.603
0.425	-0.542
0.450	-0.525
0.475	-0.506
0.500	-0.522
0.550	-0.512
0.650	-0.426
0.700	-0.385
0.750	-0.301
0.800	-0.255
0.850	-0.179
0.900	-0.087
0.950	0.021
1.000	0.142

UNSTEADY DATA

CPU/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.014	0.017	0.021	51.01
0.100	0.096	0.011	0.096	6.55
0.200	0.109	0.010	0.110	5.40
0.300	-0.038	-0.006	0.038	-171.67
0.350	0.025	0.026	0.036	46.51
0.400	0.132	0.132	0.187	45.00
0.450	-0.067	0.016	0.068	166.48
0.500	-0.054	-0.041	0.068	-142.73
0.600	-0.021	-0.019	0.028	-138.01
0.650	-0.018	-0.019	0.026	-133.36
0.700	-0.016	-0.020	0.025	-128.29
0.720	-0.016	-0.020	0.026	-127.87
0.750	-0.015	-0.017	0.023	-131.19
0.800	-0.013	-0.020	0.024	-122.00
0.850	-0.010	-0.018	0.020	-118.81
0.900	-0.002	-0.023	0.024	-95.71
0.950	-0.009	-0.018	0.020	-117.90
0.970	-0.010	-0.024	0.026	-113.50

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.714
0.050	-0.082
0.100	-0.305
0.140	-0.363
0.200	-0.554
0.250	-0.591
0.300	-0.611
0.350	-0.612
0.400	-0.627
0.450	-0.531
0.500	-0.374
0.550	-0.246
0.600	-0.112
0.650	0.013
0.700	0.120
0.750	0.202
0.800	0.254
0.850	0.276
0.900	0.290
0.950	0.271

UNSTEADY DATA

CPL/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.004	0.036	0.036	83.37
0.100	0.014	0.033	0.036	66.97
0.200	0.001	0.021	0.021	88.15
0.300	-0.008	0.001	0.008	174.29
0.400	-0.020	0.016	0.026	140.91
0.500	-0.022	-0.014	0.026	-146.89
0.600	-0.012	-0.014	0.019	-130.91
0.700	-0.013	-0.005	0.014	-160.35
0.750	-0.009	-0.009	0.013	-135.00
0.800	-0.013	-0.004	0.014	-162.90
0.850	-0.019	0.002	0.019	172.87
0.900	-0.019	0.002	0.020	174.56
0.950	0.004	0.001	0.005	14.04

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.2912	-0.0202	0.0048	UNCORRECTED
CM	-0.0687	-0.0014	-0.0025	

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 4

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 90

M	0.780	PTOT	0.900 BAR	K	0.375	DELTM	-5.0 DEG.
ALPHA	0.0 DEG.	QINF	0.254 BAR	FREQ	21.0 HZ		
RE	0.163D+08	TO	322.550 DEG. K	Y/S	0.479		

UPPER SURFACE

STEADY DATA		UNSTEADY DATA				
			CPU/RAD			
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE
0.020	-0.576	0.050	0.063	0.008	0.063	7.50
0.050	-0.635	0.100	0.108	-0.051	0.119	-25.35
0.100	-0.587	0.200	0.352	0.046	0.355	7.48
0.200	-0.712	0.300	0.024	0.023	0.033	43.96
0.250	-0.634	0.350	0.081	-0.045	0.093	-29.21
0.300	-0.564	0.400	0.098	0.029	0.102	16.58
0.325	-0.542	0.450	0.050	0.084	0.098	59.32
0.350	-0.529	0.500	0.036	0.069	0.078	62.92
0.375	-0.527	0.600	0.037	0.024	0.044	33.02
0.400	-0.514	0.650	0.008	0.008	0.012	45.00
0.425	-0.517	0.690	-0.002	0.106	0.106	91.30
0.450	-0.525	0.700	0.005	0.054	0.054	84.51
0.500	-0.532	0.730	0.0	0.058	0.058	90.00
0.550	-0.539	0.750	-0.014	0.012	0.019	139.09
0.600	-0.503	0.930	-0.003	-0.004	0.005	-126.87
0.650	-0.445	0.950	-0.003	-0.011	0.012	-104.04
0.720	-0.445	0.970	-0.011	-0.020	0.023	-119.05
0.800	-0.287					
0.910	-0.062					
0.950	0.001					
0.970	0.039					
1.000	0.089					

LOWER SURFACE

STEADY DATA		UNSTEADY DATA				
			CPL/RAD			
X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.0	0.788	0.050	0.035	-0.035	0.049	-45.00
0.050	-0.187	0.100	0.049	-0.024	0.054	-26.56
0.100	-0.386	0.200	0.076	-0.011	0.077	-8.29
0.200	-0.587	0.300	0.030	0.005	0.030	9.04
0.250	-0.624	0.400	0.072	0.013	0.073	10.01
0.300	-0.593	0.500	0.045	0.014	0.047	17.75
0.350	-0.559	0.600	0.024	-0.023	0.033	-43.03
0.400	-0.511	0.700	0.010	-0.028	0.030	-70.97
0.450	-0.420	0.800	0.001	-0.032	0.032	-88.21
0.500	-0.291	0.930	0.002	-0.026	0.026	-85.43
0.550	-0.150	0.970	0.012	-0.017	0.021	-53.97
0.600	-0.020					
0.650	0.090					
0.700	0.168					
0.750	0.223					
0.800	0.270					
0.910	0.299					
0.950	0.269					

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.2861	-0.0312	-0.0268	UNCORRECTED
CM	-0.0929	-0.0044	0.0084	

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 6

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 90

M	0.780	PTOT	0.900 BAR	K	0.375	DELTM	-5.0 DEG.
ALPHA	0.0 DEG.	QINF	0.254 BAR	FREQ	21.0 HZ		
RE	0.163D+08	TO	322.550 DEG. K	Y/S	0.566		

UPPER SURFACE

STEADY DATA		UNSTEADY DATA				
			CPU/RAD			
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE
0.020	-0.460	0.050	0.082	-0.032	0.088	-21.35
0.050	-0.547	0.100	0.083	-0.018	0.085	-12.34
0.100	-0.544	0.200	0.173	0.072	0.188	22.64
0.150	-0.560	0.300	0.021	-0.009	0.023	-22.62
0.200	-0.603	0.350	0.016	-0.021	0.027	-52.69
0.250	-0.551	0.400	0.016	-0.024	0.029	-57.09
0.300	-0.528	0.450	0.007	-0.021	0.022	-72.18
0.325	-0.521	0.500	-0.007	-0.024	0.025	-104.93
0.350	-0.516	0.600	-0.034	-0.027	0.043	-141.34
0.375	-0.518	0.630	-0.018	-0.052	0.055	-109.44
0.400	-0.510	0.690	-0.028	-0.040	0.049	-124.62
0.425	-0.501	0.700	-0.031	-0.035	0.047	-131.31
0.450	-0.509	0.730	-0.022	-0.033	0.039	-124.08
0.475	-0.502	0.750	-0.016	-0.024	0.029	-122.47
0.500	-0.519	0.910	-0.016	-0.036	0.039	-114.34
0.550	-0.490	0.950	-0.008	-0.033	0.034	-102.99
0.600	-0.467	0.970	-0.006	-0.024	0.024	-104.04
0.650	-0.427					
0.740	-0.376					
0.780	-0.306					
0.820	-0.237					
0.910	-0.066					
0.950	0.007					
0.970	0.040					
1.000	0.079					

LOWER SURFACE

STEADY DATA		UNSTEADY DATA				
			CPL/RAD			
X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.0	0.798	0.050	-0.040	0.031	0.051	142.93
0.050	-0.246	0.100	-0.031	0.010	0.032	162.55
0.100	-0.404	0.200	-0.044	-0.027	0.051	-148.09
0.200	-0.611	0.300	0.041	0.019	0.045	24.23
0.250	-0.584	0.400	0.010	-0.060	0.060	-80.54
0.300	-0.554	0.500	0.047	-0.015	0.050	-17.24
0.350	-0.509	0.600	-0.010	-0.036	0.038	-105.52
0.400	-0.467	0.700	-0.003	-0.044	0.044	-93.24
0.450	-0.388	0.800	-0.016	-0.031	0.035	-117.26
0.500	-0.282	0.870	-0.006	-0.036	0.037	-98.97
0.550	-0.139	0.910	-0.007	-0.026	0.027	-105.26
0.600	-0.020	0.950	-0.013	-0.017	0.021	-126.87
0.650	0.083					
0.700	0.154					
0.750	0.211					
0.800	0.252					
0.850	0.275					

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.2219	-0.0217	-0.0078	UNCORRECTED
CM	-0.0718	-0.0063	0.0004	

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 8

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 90

M	0.780	PTOT	0.900 BAR	K	0.375
ALPHA	0.0 DEG.	QINF	0.254 BAR	FREQ	21.0 HZ
RE	0.163D+08	TO	322.550 DEG. K	Y/S	0.618

DELTM -5.0 DEG.

----------< UPPER SURFACE >----------

STEADY DATA

X/C	CPU
0.020	-0.406
0.050	-0.503
0.100	-0.494
0.150	-0.543
0.200	-0.579
0.250	-0.542
0.300	-0.502
0.325	-0.505
0.350	-0.496
0.375	-0.487
0.400	-0.503
0.425	-0.500
0.450	-0.513
0.475	-0.515
0.500	-0.528
0.550	-0.493
0.600	-0.465
0.650	-0.438
0.720	-0.388
0.760	-0.323
0.800	-0.256
0.830	-0.202
0.950	-0.004
0.970	0.051
1.000	0.092

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.160	-0.010	0.160	-3.71
0.100	0.121	0.003	0.121	1.27
0.200	0.077	-0.009	0.077	-6.56
0.300	0.082	0.032	0.088	21.28
0.350	0.075	0.047	0.089	32.37
0.400	0.068	0.046	0.082	34.29
0.450	0.052	0.060	0.080	48.81
0.500	0.029	0.072	0.078	67.99
0.600	-0.061	0.068	0.092	131.99
0.650	-0.067	0.044	0.080	146.65
0.690	-0.081	0.038	0.090	154.83
0.730	-0.044	-0.032	0.054	-143.84
0.750	-0.065	0.022	0.068	161.31
0.800	-0.053	0.014	0.055	165.17
0.970	-0.035	-0.003	0.036	-174.47

----------< LOWER SURFACE >----------

STEADY DATA

X/C	CPL
0.0	0.793
0.050	-0.285
0.100	-0.405
0.150	-0.488
0.200	-0.582
0.250	-0.577
0.300	-0.542
0.350	-0.500
0.400	-0.456
0.450	-0.391
0.500	-0.287
0.550	-0.153
0.600	-0.023
0.650	0.076
0.700	0.131
0.750	0.204
0.800	0.243

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.0	0.035	0.035	90.00
0.100	0.015	0.047	0.049	71.83
0.200	0.037	0.056	0.067	56.47
0.300	0.041	0.016	0.044	20.81
0.400	0.049	-0.006	0.049	-6.65
0.500	0.042	-0.009	0.044	-12.53
0.600	0.046	-0.021	0.050	-24.44
0.700	-0.006	0.009	0.010	123.69
0.800	-0.005	0.008	0.009	123.69
0.970	-0.014	-0.005	0.015	-160.56

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.1982	0.0057	-0.0148	UNCORRECTED
CM	-0.0635	-0.0133	0.0078	

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 9

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 90

M	0.780	PTOT	0.900 BAR	K	0.375
ALPHA	0.0 DEG.	QINF	0.254 BAR	FREQ	21.0 HZ
RE	0.163D+08	TO	322.550 DEG. K	Y/S	0.665

DELTM -5.0 DEG.

----------< UPPER SURFACE >----------

STEADY DATA

X/C	CPU
0.020	-0.360
0.050	-0.487
0.100	-0.480
0.150	-0.538
0.200	-0.535
0.250	-0.511
0.300	-0.437
0.325	-0.492
0.350	-0.491
0.375	-0.490
0.400	-0.484
0.425	-0.485
0.450	-0.494
0.475	-0.513
0.500	-0.514
0.600	-0.435
0.630	-0.429
0.680	-0.436
0.720	-0.384
0.760	-0.323
0.800	-0.258
0.830	-0.207
0.910	-0.093
0.930	-0.002
0.970	0.034
1.000	0.081

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.138	-0.041	0.144	-16.53
0.100	0.103	-0.026	0.107	-14.38
0.200	0.121	-0.022	0.123	-10.07
0.300	0.112	-0.003	0.112	-1.59
0.350	0.098	0.009	0.098	5.37
0.400	0.096	0.009	0.096	5.42
0.450	0.010	0.056	0.057	80.17
0.500	0.054	0.011	0.055	11.31
0.600	0.005	-0.019	0.020	-76.76
0.680	0.006	-0.001	0.006	-14.04
0.700	0.010	-0.008	0.013	-39.29
0.730	-0.034	0.012	0.036	160.15
0.810	-0.019	0.018	0.026	137.73
0.870	-0.009	0.009	0.013	135.00
0.910	-0.001	0.006	0.007	99.46
0.930	0.0	0.008	0.008	90.00
0.950	-0.007	0.001	0.008	173.66

----------< LOWER SURFACE >----------

STEADY DATA

X/C	CPL
0.0	0.794
0.050	-0.349
0.100	-0.394
0.150	-0.494
0.200	-0.588
0.250	-0.585
0.300	-0.543
0.350	-0.502
0.400	-0.465
0.450	-0.394
0.500	-0.295
0.600	-0.024
0.650	0.073
0.700	0.147
0.750	0.199
0.850	0.273
0.910	0.281
0.950	0.261

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.013	-0.004	0.014	-17.53
0.100	-0.022	-0.008	0.023	-160.02
0.200	0.066	-0.037	0.076	-29.45
0.300	0.030	-0.070	0.076	-67.04
0.400	0.095	-0.036	0.101	-20.74
0.500	0.071	-0.061	0.094	-40.70
0.600	0.033	-0.010	0.034	-16.56
0.700	-0.008	-0.036	0.037	-103.17
0.800	0.028	-0.008	0.029	-15.07
0.870	0.015	0.007	0.017	23.63
0.950	0.013	0.009	0.016	33.69

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.2216	-0.0118	-0.0258	UNCORRECTED
CM	-0.0895	-0.0077	0.0063	

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 11

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 90

M	0.780	PTOT	0.900 BAR	K	0.375
ALPHA	0.0 DEG.	QINF	0.254 BAR	FREQ	21.0 HZ
RE	0.163D+08	TO	322.550 DEG. K	Y/S	0.751

DELTM -5.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.100	-0.437
0.200	-0.482
0.250	-0.492
0.300	-0.477
0.325	-0.467
0.350	-0.468
0.375	-0.465
0.400	-0.461
0.425	-0.468
0.450	-0.470
0.475	-0.485
0.500	-0.510
0.550	-0.439
0.600	-0.465
0.634	-0.436
0.680	-0.401
0.720	-0.360
0.800	-0.243
0.830	-0.203
0.910	-0.052
0.950	-0.001
0.970	0.037
1.000	0.102

UNSTEADY DATA

CPU/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.096	0.033	0.101	19.13
0.100	0.089	0.025	0.093	15.88
0.200	0.076	0.023	0.079	16.59
0.300	0.080	0.018	0.082	12.58
0.350	0.070	0.019	0.073	15.35
0.400	0.052	0.021	0.056	21.80
0.450	0.038	0.027	0.047	35.31
0.500	0.026	0.030	0.040	49.03
0.600	-0.031	0.016	0.035	152.70
0.630	-0.044	0.007	0.044	171.25
0.680	-0.030	-0.019	0.035	-147.85
0.700	-0.025	-0.025	0.035	-136.00
0.730	-0.021	-0.029	0.036	-125.91
0.750	-0.013	-0.036	0.038	-109.86
0.800	0.003	-0.033	0.033	-84.96
0.910	0.035	-0.012	0.037	-19.44
0.930	0.040	-0.009	0.041	-12.88
0.950	0.042	-0.011	0.043	-14.42
0.970	0.047	-0.012	0.049	-14.32

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.782
0.050	-0.441
0.100	-0.464
0.200	-0.624
0.250	-0.615
0.300	-0.561
0.350	-0.506
0.400	-0.441
0.450	-0.390
0.500	-0.300
0.550	-0.153
0.600	-0.034
0.700	0.137
0.750	0.186
0.910	0.278
0.950	0.260

UNSTEADY DATA

CPL/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.070	-0.091	0.115	-52.58
0.100	0.080	-0.075	0.109	-43.09
0.200	0.109	-0.115	0.159	-46.64
0.300	0.138	-0.097	0.168	-35.04
0.400	0.177	-0.086	0.197	-25.86
0.500	0.175	-0.059	0.185	-18.74
0.600	0.073	-0.010	0.074	-7.73
0.700	0.153	-0.037	0.158	-13.71
0.800	0.170	-0.033	0.174	-10.99
0.910	0.115	-0.019	0.116	-9.55
0.950	0.099	-0.010	0.100	-5.51

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.1484	0.0898	-0.0596	UNCORRECTED
CM	-0.0937	-0.0330	0.0039	

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 13

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 90

M	0.780	PTOT	0.900 BAR	K	0.375
ALPHA	0.0 DEG.	QINF	0.254 BAR	FREQ	21.0 HZ
RE	0.163D+08	TO	322.550 DEG. K	Y/S	0.854

DELTM -5.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.010	0.223
0.020	-0.149
0.030	-0.237
0.050	-0.332
0.100	-0.357
0.150	-0.375
0.200	-0.413
0.250	-0.405
0.300	-0.409
0.350	-0.411
0.375	-0.421
0.400	-0.425
0.425	-0.431
0.450	-0.418
0.475	-0.409
0.500	-0.416
0.575	-0.378
0.600	-0.341
0.650	-0.293
0.675	-0.247
0.700	-0.216
0.750	-0.110
0.800	-0.101
0.850	-0.109
0.900	-0.082
0.950	-0.020
1.000	0.108

UNSTEADY DATA

CPU/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.060	0.094	0.111	57.50
0.100	0.070	0.066	0.097	43.08
0.200	0.011	0.076	0.077	82.07
0.300	-0.037	0.074	0.083	116.82
0.350	-0.086	0.072	0.113	140.09
0.400	-0.153	0.068	0.167	156.04
0.450	-0.208	0.047	0.214	167.15
0.500	-0.331	0.040	0.333	173.18
0.650	-0.875	-0.069	0.878	-175.52
0.700	-1.178	-0.122	1.185	-174.07
0.720	-1.460	-0.160	1.468	-173.75
0.820	-1.690	-0.387	1.733	-167.09
0.910	-0.410	-0.211	0.461	-152.74
0.950	0.313	-0.109	0.331	-19.19

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.810
0.010	-0.086
0.030	-0.571
0.050	-0.655
0.200	-0.625
0.300	-0.566
0.400	-0.451
0.500	-0.300
0.600	-0.143
0.700	0.046
0.800	0.131
0.850	0.169
0.900	0.197
0.950	0.204

UNSTEADY DATA

CPL/RAD

X/C	REAL	IMAG	MAG	PHASE
0.050	0.219	-0.241	0.325	-47.67
0.100	0.210	-0.174	0.272	-39.68
0.200	0.300	-0.168	0.344	-29.28
0.300	0.484	-0.196	0.522	-22.07
0.400	0.518	-0.095	0.527	-10.39
0.500	0.619	-0.041	0.620	-3.81
0.600	0.728	0.046	0.729	3.59
0.800	1.544	0.186	1.555	6.87

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.0188	1.1298	0.0229	UNCORRECTED
CM	-0.0580	-0.4752	-0.0670	

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 14

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 90

M	0.780	PTOT	0.900 BAR	K	0.375
ALPHA	0.0 DEG.	QINF	0.254 BAR	FREQ	21.0 HZ
RE	0.163D+08	TO	322.550 DEG. K	Y/S	0.885

DELTM -5.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.010	0.264
0.020	-0.004
0.030	-0.157
0.050	-0.273
0.100	-0.344
0.200	-0.388
0.250	-0.357
0.300	-0.370
0.350	-0.376
0.375	-0.364
0.400	-0.369
0.425	-0.373
0.450	-0.369
0.475	-0.359
0.500	-0.340
0.525	-0.331
0.550	-0.317
0.575	-0.292
0.600	-0.249
0.625	-0.210
0.675	-0.181
0.700	-0.171
0.750	-0.087
0.850	-0.084
0.900	-0.057
0.950	0.003
1.000	0.121

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.061	0.163	0.174	69.44
0.100	0.044	0.120	0.128	69.79
0.140	0.006	0.130	0.130	87.41
0.200	-0.031	0.133	0.136	102.96
0.250	-0.088	0.128	0.155	124.48
0.300	-0.132	0.112	0.173	139.78
0.350	-0.213	0.109	0.239	152.90
0.400	-0.292	0.096	0.308	161.75
0.450	-0.413	0.072	0.419	170.06
0.500	-0.533	0.036	0.535	176.11
0.550	-0.882	0.020	0.882	178.72
0.600	-1.061	-0.028	1.062	-178.49
0.700	-2.104	-0.276	2.122	-172.52
0.800	-2.480	-0.430	2.517	-170.17
0.900	-0.340	-0.448	0.563	-127.18

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.813
0.010	-0.030
0.030	-0.686
0.050	-0.751
0.300	-0.610
0.400	-0.471
0.500	-0.366
0.600	-0.196
0.700	0.029
0.800	0.132
0.850	0.178
0.900	0.203
0.950	0.211

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.264	-0.314	0.410	-50.00
0.100	0.245	-0.142	0.283	-30.15
0.200	0.358	-0.183	0.401	-27.05
0.300	0.598	-0.129	0.611	-12.18
0.400	0.716	-0.061	0.718	-4.89
0.500	0.924	0.035	0.924	2.16
0.700	1.178	0.199	1.194	9.57
0.850	1.486	0.277	1.512	10.55

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	-0.0722	1.4361	0.0672	UNCORRECTED
CM	-0.0458	-0.5629	-0.0903	

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 15

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 90

M	0.780	PTOT	0.900 BAR	K	0.375
ALPHA	0.0 DEG.	QINF	0.254 BAR	FREQ	21.0 HZ
RE	0.163D+08	TO	322.550 DEG. K	Y/S	0.944

DELTM -5.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.010	0.509
0.020	0.101
0.030	-0.065
0.050	-0.225
0.100	-0.342
0.150	-0.342
0.200	-0.326
0.250	-0.304
0.300	-0.309
0.350	-0.321
0.375	-0.326
0.400	-0.314
0.425	-0.319
0.450	-0.313
0.475	-0.312
0.500	-0.311
0.525	-0.290
0.575	-0.276
0.600	-0.249
0.650	-0.209
0.675	-0.184
0.700	-0.158
0.750	-0.106
0.800	-0.091
0.850	-0.099
0.900	-0.083
0.950	-0.032
1.000	0.092

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	-0.084	0.144	0.167	120.20
0.100	-0.133	0.131	0.187	135.51
0.140	-0.165	0.111	0.199	146.10
0.200	-0.189	0.103	0.215	151.35
0.250	-0.249	0.088	0.264	160.53
0.300	-0.301	0.059	0.307	168.88
0.350	-0.349	0.043	0.351	173.04
0.400	-0.451	0.033	0.452	175.85
0.450	-0.547	0.006	0.547	179.32
0.500	-0.715	-0.040	0.716	-176.80
0.550	-0.668	-0.035	0.669	-177.03
0.600	-0.836	-0.077	0.840	-174.75
0.650	-1.018	-0.131	1.026	-172.67
0.700	-1.175	-0.209	1.193	-169.93
0.850	-1.464	-0.316	1.497	-167.80
0.900	-0.751	-0.220	0.782	-163.68

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.808
0.030	-0.140
0.100	-0.570
0.200	-0.647
0.300	-0.521
0.400	-0.402
0.500	-0.345
0.600	-0.198
0.700	-0.029
0.800	0.122
0.850	0.162
0.900	0.182
0.950	0.175

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.736	-0.572	0.932	-37.87
0.100	0.187	0.058	0.195	17.12
0.200	0.679	-0.171	0.700	-14.16
0.400	0.802	-0.002	0.802	-0.13
0.500	1.031	0.070	1.033	3.88
0.600	1.625	0.046	1.625	1.63
0.700	1.362	0.222	1.380	9.25
0.800	1.913	0.329	1.941	9.76
0.850	1.033	0.272	1.068	14.75

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	-0.0245	1.4065	0.0885	UNCORRECTED
CM	-0.0366	-0.4726	-0.0791	

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 1

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 116

M 0.780 PTOT 0.900 BAR K 0.377 DELTM 0.0 DEG.
ALPHA 2.000 DEG. QINF 0.256 BAR FREQ 21.0 HZ
RE 0.165D+08 TO 319.150 DEG. K Y/S 0.254

UPPER SURFACE

STEADY DATA		UNSTEADY DATA				
			CPU/RAD			
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE
0.010	-0.770	0.100	0.004	-0.001	0.004	-11.31
0.020	-1.209	0.200	0.020	-0.014	0.024	-34.12
0.030	-1.288	0.300	0.009	-0.023	0.025	-68.20
0.050	-1.273	0.350	-0.004	-0.060	0.060	-93.87
0.100	-1.200	0.400	0.021	-0.033	0.039	-57.88
0.150	-0.992	0.450	0.355	-0.124	0.376	-19.23
0.200	-0.973	0.500	0.102	0.091	0.137	41.60
0.250	-0.962	0.600	0.024	0.104	0.106	77.11
0.300	-0.963	0.650	0.006	0.090	0.090	86.39
0.350	-0.913	0.700	0.001	0.072	0.072	89.28
0.375	-0.879	0.720	-0.004	0.067	0.067	93.22
0.400	-0.962	0.750	-0.010	0.059	0.060	99.61
0.425	-0.839	0.800	-0.013	0.051	0.053	104.26
0.450	-0.579	0.850	-0.014	0.037	0.039	111.04
0.475	-0.489	0.900	-0.018	0.036	0.041	116.56
0.500	-0.461	0.950	-0.014	0.026	0.029	118.18
0.525	-0.441	0.970	-0.016	0.016	0.023	135.00
0.550	-0.416					
0.575	-0.390					
0.600	-0.359					
0.625	-0.326					
0.650	-0.296					
0.675	-0.272					
0.700	-0.252					
0.750	-0.198					
0.800	-0.134					
0.850	-0.068					
0.900	-0.003					
0.950	0.080					
1.000	0.172					

LOWER SURFACE

STEADY DATA		UNSTEADY DATA				
			CPL/RAD			
X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.0	0.690	0.050	0.019	0.020	0.027	46.64
0.010	0.615	0.100	0.019	0.020	0.027	46.74
0.030	0.336	0.200	0.029	0.003	0.029	5.19
0.050	0.183	0.300	0.030	0.010	0.031	17.82
0.100	-0.055	0.400	0.030	0.014	0.033	24.90
0.200	-0.312	0.500	0.010	0.027	0.029	69.44
0.300	-0.403	0.600	0.003	0.027	0.027	82.87
0.400	-0.420	0.700	0.003	0.028	0.029	84.29
0.500	-0.300	0.750	-0.002	0.027	0.027	94.40
0.600	-0.130	0.800	-0.002	0.020	0.020	94.40
0.700	0.033	0.850	-0.003	0.027	0.027	96.12
0.800	0.143	0.900	-0.005	0.029	0.029	98.88
0.850	0.170	0.950	-0.009	0.026	0.028	109.65
0.900	0.188					
0.950	0.191					

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.4559	-0.0158	-0.0039	UNCORRECTED
CM	-0.0200	0.0035	0.0061	

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 2

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 116

M 0.780 PTOT 0.900 BAR K 0.377 DELTM 0.0 DEG.
ALPHA 2.000 DEG. QINF 0.256 BAR FREQ 21.0 HZ
RE 0.165D+08 TO 319.150 DEG. K Y/S 0.353

UPPER SURFACE

STEADY DATA		UNSTEADY DATA				
			CPU/RAD			
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE
0.020	-1.287	0.050	-0.002	-0.044	0.044	-93.07
0.050	-1.243	0.100	0.011	-0.069	0.070	-81.05
0.100	-1.148	0.200	0.029	-0.043	0.052	-56.54
0.140	-1.153	0.300	0.018	-0.037	0.041	-64.59
0.200	-1.137	0.350	0.044	-0.004	0.044	-5.12
0.250	-1.055	0.400	0.213	-0.070	0.224	-18.11
0.300	-0.938	0.450	0.222	-0.099	0.244	-24.10
0.325	-0.943	0.500	0.072	0.051	0.088	35.36
0.350	-0.962	0.600	0.020	0.060	0.064	71.27
0.375	-0.936	0.650	0.009	0.052	0.053	79.80
0.425	-0.747	0.700	0.004	0.041	0.041	84.29
0.450	-0.560	0.720	-0.004	0.032	0.033	97.85
0.475	-0.490	0.750	-0.005	0.030	0.030	100.12
0.500	-0.488	0.800	-0.004	0.022	0.022	100.89
0.550	-0.502	0.850	-0.006	0.012	0.014	116.57
0.650	-0.449	0.900	-0.006	0.014	0.015	112.62
0.700	-0.403	0.950	0.002	0.003	0.004	56.31
0.750	-0.314	0.970	0.001	0.005	0.005	78.69
0.800	-0.256					
0.850	-0.172					
0.900	-0.082					
0.950	0.024					
1.000	0.131					

LOWER SURFACE

STEADY DATA		UNSTEADY DATA				
			CPL/RAD			
X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.0	0.634	0.050	0.021	0.021	0.030	43.88
0.050	0.108	0.100	0.024	0.018	0.030	36.25
0.100	-0.119	0.200	0.015	0.016	0.021	46.27
0.140	-0.194	0.300	0.005	0.022	0.022	77.47
0.200	-0.362	0.400	-0.001	0.014	0.014	94.97
0.250	-0.412	0.500	-0.006	0.004	0.007	146.31
0.300	-0.433	0.600	0.002	0.008	0.009	77.47
0.350	-0.457	0.700	0.003	0.008	0.008	69.44
0.400	-0.479	0.750	0.007	0.010	0.013	55.01
0.450	-0.424	0.800	0.004	0.011	0.012	70.02
0.500	-0.312	0.850	0.007	0.009	0.012	53.13
0.550	-0.210	0.900	0.0	0.014	0.014	90.00
0.600	-0.073	0.950	0.0	0.010	0.010	90.00
0.650	0.039					
0.700	0.145					
0.750	0.224					
0.800	0.269					
0.850	0.291					
0.900	0.296					
0.950	0.273					

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.5275	-0.0239	0.0157	UNCORRECTED
CM	-0.0674	0.0050	0.0045	

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 4

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 116

M	0.780	PTOT	0.900 BAR	K	0.377	DELTM	0.0 DEG.
ALPHA	2.000 DEG.	QINF	0.256 BAR	FREQ	21.0 HZ		
RE	0.165D+08	TO	319.150 DEG. K	Y/S	0.479		

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.020	-1.139
0.050	-1.103
0.100	-1.066
0.200	-1.050
0.250	-1.071
0.300	-1.040
0.325	-1.021
0.350	-0.978
0.375	-0.736
0.400	-0.539
0.425	-0.509
0.450	-0.520
0.500	-0.543
0.550	-0.570
0.600	-0.542
0.650	-0.476
0.720	-0.465
0.800	-0.300
0.910	-0.064
0.950	-0.006
0.970	0.032
1.000	0.076

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.028	-0.028	0.039	-45.00
0.100	0.010	-0.040	0.042	-75.65
0.200	0.019	-0.003	0.019	-9.46
0.300	-0.003	0.006	0.007	119.74
0.350	-0.080	-0.107	0.134	-126.76
0.400	0.047	0.172	0.178	74.87
0.450	0.006	0.057	0.057	83.58
0.500	0.010	0.031	0.033	72.00
0.600	-0.011	0.012	0.016	132.71
0.650	-0.007	0.003	0.008	159.44
0.690	-0.071	0.012	0.072	170.54
0.700	-0.032	-0.005	0.032	-170.84
0.730	-0.025	-0.006	0.026	-166.50
0.750	-0.009	-0.013	0.016	-125.54
0.930	-0.002	0.0	0.002	180.00
0.950	-0.001	0.003	0.003	108.44
0.970	-0.001	-0.002	0.002	-116.56

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.749
0.050	0.055
0.100	-0.148
0.200	-0.352
0.250	-0.395
0.300	-0.405
0.350	-0.407
0.400	-0.392
0.450	-0.339
0.500	-0.235
0.550	-0.107
0.600	0.010
0.650	0.121
0.700	0.200
0.750	0.256
0.800	0.295
0.910	0.305
0.950	0.273

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.002	-0.007	0.007	-73.30
0.100	0.008	-0.002	0.008	-11.31
0.200	0.009	-0.008	0.012	-42.51
0.300	0.009	-0.013	0.016	-55.01
0.400	0.008	-0.015	0.018	-61.39
0.500	0.013	-0.014	0.019	-47.49
0.600	0.018	-0.014	0.022	-37.69
0.700	0.008	-0.017	0.019	-66.04
0.800	0.011	-0.027	0.029	-67.83
0.930	0.015	-0.003	0.015	-12.09
0.970	0.015	-0.008	0.017	-30.07

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.5512	0.0108	-0.0153	UNCORRECTED
CM	-0.0906	-0.0046	0.0049	

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 6

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 116

M	0.780	PTOT	0.900 BAR	K	0.377	DELTM	0.0 DEG.
ALPHA	2.000 DEG.	QINF	0.256 BAR	FREQ	21.0 HZ		
RE	0.165D+08	TO	319.150 DEG. K	Y/S	0.566		

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.020	-1.046
0.050	-1.011
0.100	-1.024
0.150	-1.001
0.200	-1.008
0.250	-0.986
0.300	-0.921
0.325	-0.923
0.350	-0.858
0.375	-0.637
0.400	-0.526
0.425	-0.533
0.450	-0.541
0.475	-0.549
0.500	-0.562
0.550	-0.551
0.600	-0.514
0.650	-0.470
0.740	-0.397
0.780	-0.319
0.820	-0.243
0.910	-0.065
0.950	-0.002
0.970	0.027
1.000	0.059

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.091	-0.057	0.107	-32.05
0.100	0.086	-0.061	0.105	-35.37
0.200	0.051	-0.040	0.065	-38.16
0.300	0.148	-0.216	0.261	-55.63
0.350	0.845	-0.561	1.014	-33.55
0.400	0.744	0.234	0.780	17.45
0.450	0.020	0.330	0.331	86.60
0.500	-0.087	0.305	0.317	105.95
0.600	-0.171	0.121	0.210	144.78
0.630	-0.127	0.029	0.130	166.94
0.690	-0.131	0.044	0.138	161.57
0.700	-0.111	0.038	0.118	161.08
0.730	-0.091	0.024	0.095	165.40
0.750	-0.072	0.017	0.074	167.01
0.910	-0.038	-0.006	0.038	-171.16
0.950	-0.037	0.019	0.042	153.43
0.970	-0.042	0.028	0.050	145.78

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.763
0.050	0.030
0.100	-0.150
0.200	-0.351
0.250	-0.375
0.300	-0.378
0.350	-0.367
0.400	-0.357
0.450	-0.310
0.500	-0.220
0.550	-0.100
0.600	0.010
0.650	0.112
0.700	0.188
0.750	0.246
0.800	0.281
0.850	0.297

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.018	0.011	0.021	30.96
0.100	0.006	0.024	0.025	75.96
0.200	0.015	0.013	0.020	40.10
0.300	0.010	-0.018	0.021	-60.02
0.400	0.018	0.001	0.018	2.29
0.500	0.019	-0.023	0.030	-49.40
0.600	-0.010	0.008	0.013	141.34
0.700	-0.022	-0.013	0.025	-148.39
0.800	-0.021	0.002	0.021	174.81
0.870	-0.021	0.003	0.021	172.23
0.910	-0.021	0.003	0.021	170.54
0.950	-0.029	0.009	0.031	162.18

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.4919	-0.0555	-0.0139	UNCORRECTED
CM	-0.0689	-0.0058	0.0147	

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 8

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 116

M	0.780	PTOT	0.900 BAR	K	0.377
ALPHA	2.000 DEG.	QINF	0.256 BAR	FREQ	21.0 HZ
RE	0.165D+08	TO	319.150 DEG. K	Y/S	0.618

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.020	-1.000
0.050	-1.042
0.100	-1.000
0.150	-1.027
0.200	-1.007
0.250	-0.963
0.300	-0.896
0.325	-0.843
0.350	-0.613
0.375	-0.529
0.400	-0.532
0.425	-0.537
0.450	-0.551
0.475	-0.575
0.500	-0.604
0.550	-0.569
0.600	-0.530
0.650	-0.481
0.720	-0.415
0.760	-0.342
0.800	-0.267
0.830	-0.209
0.950	-0.014
0.970	0.049
1.000	0.060

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.045	-0.010	0.046	-12.93
0.100	0.047	-0.015	0.050	-17.78
0.200	0.055	-0.019	0.058	-19.48
0.300	0.119	-0.084	0.146	-35.11
0.350	-0.206	0.421	0.469	116.02
0.400	-0.041	-0.004	0.042	-174.96
0.450	-0.029	-0.027	0.039	-136.91
0.500	-0.057	-0.008	0.058	-171.66
0.600	-0.029	0.008	0.030	165.17
0.650	-0.049	0.001	0.049	179.01
0.690	-0.043	-0.008	0.044	-169.51
0.730	-0.018	-0.034	0.038	-117.70
0.750	-0.029	-0.008	0.030	-165.53
0.800	-0.027	-0.014	0.031	-152.78
0.970	-0.006	-0.007	0.009	-129.81

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.764
0.050	0.009
0.100	-0.155
0.150	-0.253
0.200	-0.339
0.250	-0.362
0.300	-0.364
0.350	-0.359
0.400	-0.343
0.450	-0.303
0.500	-0.231
0.550	-0.114
0.600	0.006
0.650	0.104
0.700	0.164
0.750	0.238
0.800	0.275

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.010	-0.013	0.017	-52.12
0.100	0.013	-0.004	0.014	-15.52
0.200	0.027	-0.015	0.031	-29.29
0.300	0.033	-0.015	0.037	-24.86
0.400	0.037	-0.022	0.043	-30.41
0.500	0.035	-0.018	0.039	-27.44
0.600	0.028	-0.008	0.029	-16.50
0.700	0.006	-0.011	0.013	-63.44
0.800	0.003	-0.010	0.011	-71.56
0.970	-0.004	-0.003	0.005	-141.34

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.4700	0.0261	-0.0130	UNCORRECTED
CM	-0.0596	-0.0115	0.0021	

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 9

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 116

M	0.780	PTOT	0.900 BAR	K	0.377
ALPHA	2.000 DEG.	QINF	0.256 BAR	FREQ	21.0 HZ
RE	0.165D+08	TO	319.150 DEG. K	Y/S	0.665

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.020	-0.893
0.050	-0.967
0.100	-0.996
0.150	-1.008
0.200	-0.960
0.250	-0.936
0.300	-0.757
0.325	-0.623
0.350	-0.525
0.375	-0.529
0.400	-0.555
0.425	-0.569
0.450	-0.590
0.475	-0.612
0.500	-0.643
0.600	-0.499
0.630	-0.481
0.680	-0.483
0.720	-0.416
0.760	-0.344
0.800	-0.272
0.830	-0.215
0.910	-0.092
0.930	-0.013
0.970	0.018
1.000	0.058

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.048	-0.027	0.055	-29.86
0.100	0.067	-0.019	0.070	-15.87
0.200	0.049	-0.047	0.068	-43.58
0.300	0.186	-0.219	0.287	-49.68
0.350	0.083	0.337	0.347	76.16
0.400	0.011	0.052	0.053	77.47
0.450	-0.055	0.052	0.076	136.59
0.500	0.006	0.045	0.046	82.18
0.600	-0.091	-0.067	0.113	-143.93
0.680	-0.013	-0.022	0.026	-120.96
0.700	-0.004	-0.023	0.023	-99.09
0.730	-0.054	-0.019	0.057	-160.97
0.810	-0.048	-0.010	0.049	-167.69
0.870	-0.024	-0.011	0.027	-155.22
0.910	-0.028	-0.015	0.031	-151.70
0.930	-0.026	-0.011	0.028	-156.04
0.950	0.0	0.0	0.0	0.0

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.747
0.050	-0.057
0.100	-0.142
0.150	-0.256
0.200	-0.338
0.250	-0.366
0.300	-0.366
0.350	-0.358
0.400	-0.345
0.450	-0.310
0.500	-0.241
0.600	0.006
0.650	0.101
0.700	0.181
0.750	0.236
0.850	0.296
0.910	0.292
0.950	0.265

UNSTEADY DATA

	CPL/RAD			
X/C	REA	IMAG	MAG	PHASE
0.050	-0.009	-0.001	0.010	-175.91
0.100	0.007	-0.033	0.033	-78.69
0.200	0.041	-0.012	0.043	-15.52
0.300	0.044	-0.055	0.071	-51.12
0.400	0.048	-0.024	0.053	-26.57
0.500	0.066	-0.038	0.076	-30.17
0.600	-0.005	-0.012	0.013	-113.20
0.700	0.024	-0.024	0.035	-45.00
0.800	0.017	-0.017	0.025	-45.00
0.870	0.011	-0.011	0.016	-45.00
0.950	0.010	-0.010	0.014	-45.00

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.4929	0.0155	-0.0094	UNCORRECTED
CM	-0.0893	-0.0140	0.0032	

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 11

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 116

M	0.780	PTOT	0.900 BAR	K	0.377
ALPHA	2.000 DEG.	QINF	0.256 BAR	FREQ	21.0 HZ
RE	0.165D+08	TO	319.150 DEG. K	Y/S	0.751

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.100	-0.966
0.200	-0.880
0.250	-0.747
0.300	-0.589
0.325	-0.588
0.350	-0.600
0.375	-0.618
0.400	-0.628
0.425	-0.641
0.450	-0.643
0.475	-0.652
0.500	-0.668
0.550	-0.523
0.600	-0.539
0.634	-0.506
0.680	-0.453
0.720	-0.397
0.800	-0.265
0.830	-0.219
0.910	-0.058
0.950	-0.009
0.970	0.026
1.000	0.079

UNSTEADY DATA

		CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.064	-0.015	0.066	-12.80
0.100	0.077	-0.005	0.077	-3.61
0.200	0.173	0.107	0.203	31.74
0.300	0.245	-0.083	0.259	-18.63
0.350	0.016	0.028	0.032	59.66
0.400	-0.034	0.083	0.089	112.62
0.450	-0.101	0.080	0.129	141.45
0.500	-0.099	0.178	0.204	118.97
0.600	-0.065	-0.032	0.072	-153.79
0.630	-0.092	-0.011	0.093	-173.13
0.680	-0.059	-0.014	0.061	-167.12
0.700	-0.042	-0.024	0.048	-149.74
0.730	-0.026	-0.028	0.038	-132.88
0.750	-0.015	-0.034	0.037	-113.81
0.800	-0.002	-0.037	0.037	-92.94
0.910	0.024	-0.014	0.028	-31.33
0.930	0.029	-0.007	0.029	-13.50
0.950	0.021	-0.007	0.023	-18.43
0.970	0.023	-0.005	0.023	-12.26

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.620
0.050	-0.085
0.100	-0.186
0.200	-0.355
0.250	-0.383
0.300	-0.380
0.350	-0.363
0.400	-0.330
0.450	-0.306
0.500	-0.244
0.550	-0.107
0.600	-0.001
0.700	0.178
0.750	0.233
0.910	0.291
0.950	0.266

UNSTEADY DATA

		CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.078	-0.032	0.085	-22.29
0.100	0.084	-0.032	0.090	-20.49
0.200	0.053	0.013	0.055	13.43
0.300	0.111	-0.036	0.117	-17.92
0.400	0.096	-0.005	0.096	-3.22
0.500	0.131	-0.033	0.135	-14.14
0.600	0.056	0.018	0.058	17.88
0.700	0.121	-0.017	0.122	-8.13
0.800	0.145	-0.029	0.148	-11.40
0.910	0.094	-0.012	0.094	-7.13
0.950	0.078	-0.006	0.079	-4.33

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.3864	0.0680	-0.0304	UNCORRECTED
CM	-0.1044	-0.0337	0.0029	

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 13

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 116

M	0.780	PTOT	0.900 BAR	K	0.377
ALPHA	2.000 DEG.	QINF	0.256 BAR	FREQ	21.0 HZ
RE	0.165D+08	TO	319.150 DEG. K	Y/S	0.854

DELTM 0.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.010	-0.219
0.020	-0.692
0.030	-0.742
0.050	-0.810
0.100	-0.878
0.150	-0.737
0.200	-0.725
0.250	-0.647
0.300	-0.626
0.350	-0.584
0.375	-0.590
0.400	-0.597
0.425	-0.597
0.450	-0.580
0.475	-0.565
0.500	-0.560
0.575	-0.485
0.600	-0.448
0.650	-0.404
0.675	-0.358
0.700	-0.349
0.750	-0.285
0.800	-0.287
0.850	-0.212
0.900	-0.120
0.950	-0.021
1.000	0.083

UNSTEADY DATA

		CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.114	0.060	0.129	27.93
0.100	0.139	0.161	0.213	49.08
0.200	-0.026	0.278	0.279	95.32
0.300	-0.185	0.030	0.187	170.66
0.350	0.022	0.097	0.099	77.28
0.400	-0.064	0.097	0.116	123.46
0.450	-0.197	0.160	0.254	140.80
0.500	-0.427	0.245	0.492	150.18
0.650	-0.786	-0.035	0.787	-177.48
0.700	-1.095	-0.074	1.097	-176.11
0.720	-1.420	-0.108	1.424	-175.63
0.820	-1.431	-0.269	1.456	-169.34
0.910	-0.166	-0.153	0.226	-137.21
0.950	-0.028	-0.082	0.086	-109.09

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.701
0.010	0.334
0.030	-0.090
0.050	-0.207
0.200	-0.372
0.300	-0.389
0.400	-0.324
0.500	-0.214
0.600	-0.071
0.700	0.140
0.800	0.267
0.850	0.296
0.900	0.297
0.950	0.264

UNSTEADY DATA

		CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.159	-0.095	0.185	-30.71
0.100	0.184	-0.087	0.204	-25.18
0.200	0.241	-0.088	0.257	-20.08
0.300	0.345	-0.079	0.354	-12.84
0.400	0.437	-0.057	0.440	-7.49
0.500	0.532	-0.020	0.533	-2.16
0.600	0.708	0.042	0.709	3.42
0.800	1.116	0.183	1.131	9.34

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.3783	0.9470	-0.0234	UNCORRECTED
CM	-0.0873	-0.3906	-0.0474	

TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 4

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 140

M	0.830	PTOT	0.900 BAR	K	0.355
ALPHA	0.0 DEG.	QINF	0.275 BAR	FREQ	21.0 HZ
RE	0.169D+08	TO	321.550 DEG. K	Y/S	0.479

DELTM -2.0 DEG.

UPPER SURFACE

STEADY DATA		UNSTEADY DATA				
			CPU/RAD			
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE
0.020	-0.506	0.050	0.005	0.007	0.009	52.12
0.050	-0.588	0.100	0.051	0.017	0.053	18.14
0.100	-0.610	0.200	0.064	-0.007	0.064	-5.91
0.200	-0.706	0.300	0.035	0.002	0.035	3.90
0.250	-0.747	0.350	0.037	0.011	0.039	16.78
0.300	-0.758	0.400	0.062	0.008	0.062	6.97
0.325	-0.753	0.450	0.002	0.015	0.015	82.23
0.350	-0.745	0.500	0.039	0.003	0.039	4.24
0.375	-0.744	0.600	0.211	-0.119	0.242	-29.45
0.400	-0.692	0.650	-0.084	0.196	0.213	113.11
0.425	-0.699	0.690	-0.031	0.013	0.034	156.80
0.450	-0.721	0.700	0.008	0.012	0.014	56.31
0.500	-0.738	0.730	-0.012	0.008	0.015	145.30
0.550	-0.746	0.750	-0.012	-0.073	0.074	-99.57
0.600	-0.654	0.930	0.010	-0.003	0.010	-15.26
0.650	-0.392	0.950	0.004	-0.004	0.006	-38.66
0.720	-0.401	0.970	0.019	-0.002	0.019	-6.01
0.800	-0.228					
0.910	-0.035					
0.950	0.023					
0.970	0.058					
1.000	0.098					

LOWER SURFACE

STEADY DATA		UNSTEADY DATA				
			CPL			
X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.0	0.792	0.050	0.047	-0.009	0.048	-10.71
0.050	-0.194	0.100	0.042	-0.002	0.042	-3.18
0.100	-0.397	0.200	0.031	-0.010	0.032	-18.43
0.200	-0.644	0.300	0.030	-0.001	0.030	-1.19
0.250	-0.718	0.400	-0.174	0.037	0.178	168.15
0.300	-0.778	0.500	0.025	-0.026	0.036	-46.24
0.350	-0.842	0.600	0.034	-0.037	0.051	-47.39
0.400	-0.878	0.700	0.006	-0.039	0.040	-80.96
0.450	-0.366	0.800	0.052	-0.054	0.075	-45.99
0.500	-0.230	0.930	0.024	0.034	0.042	54.46
0.550	-0.116	0.970	0.036	0.024	0.044	33.69
0.600	-0.014					
0.650	0.061					
0.700	0.111					
0.750	0.168					
0.800	0.222					
0.910	0.271					
0.950	0.255					

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.2842	-0.0289	0.0075	UNCORRECTED
CM	-0.0886	0.0021	-0.0064	

TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 6

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 140

M	0.830	PTOT	0.900 BAR	K	0.355
ALPHA	0.0 DEG.	QINF	0.275 BAR	FREQ	21.0 HZ
RE	0.169D+08	TO	321.550 DEG. K	Y/S	0.566

DELTM -2.0 DEG.

UPPER SURFACE

STEADY DATA		UNSTEADY DATA				
			CPU/RAD			
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE
0.020	-0.401	0.050	-0.086	-0.008	0.086	-174.97
0.050	-0.459	0.100	0.030	-0.007	0.031	-13.32
0.100	-0.537	0.200	0.013	-0.042	0.044	-72.70
0.150	-0.504	0.300	0.008	-0.061	0.062	-82.50
0.200	-0.685	0.350	-0.005	-0.079	0.079	-93.37
0.250	-0.758	0.400	-0.028	-0.085	0.089	-108.43
0.300	-0.773	0.450	-0.074	-0.089	0.116	-129.55
0.325	-0.742	0.500	-0.129	-0.237	0.270	-118.42
0.350	-0.725	0.600	0.731	-0.907	1.165	-51.14
0.375	-0.739	0.630	0.417	0.015	0.418	2.07
0.400	-0.738	0.690	0.523	0.379	0.646	35.91
0.425	-0.712	0.700	0.386	0.323	0.503	39.91
0.450	-0.707	0.730	0.208	0.274	0.344	52.86
0.475	-0.709	0.750	0.125	0.224	0.256	60.77
0.500	-0.699	0.910	0.021	0.075	0.078	74.29
0.550	-0.495	0.950	0.071	0.051	0.088	35.42
0.600	-0.407	0.970	0.098	0.057	0.113	30.43
0.650	-0.403					
0.740	-0.379					
0.780	-0.292					
0.820	-0.214					
0.910	-0.044					
0.950	0.023					
0.970	0.054					
1.000	0.087					

LOWER SURFACE

STEADY DATA		UNSTEADY DATA				
			CPL			
X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.0	0.793	0.050	0.017	-0.089	0.090	-79.41
0.050	-0.264	0.100	0.084	-0.071	0.110	-40.24
0.100	-0.458	0.200	0.065	-0.064	0.092	-44.66
0.200	-0.678	0.300	0.093	-0.100	0.137	-47.08
0.250	-0.776	0.400	0.368	0.006	0.368	0.92
0.300	-0.822	0.500	0.066	0.021	0.070	17.65
0.350	-0.853	0.600	0.066	0.001	0.066	0.81
0.400	-0.461	0.700	0.016	-0.073	0.075	-77.54
0.450	-0.353	0.800	-0.005	-0.125	0.125	-92.40
0.500	-0.254	0.870	0.015	-0.093	0.094	-80.80
0.550	-0.126	0.910	0.011	-0.080	0.081	-82.30
0.600	-0.014	0.950	0.038	-0.036	0.052	-43.49
0.650	0.071					
0.700	0.132					
0.750	0.183					
0.800	0.221					
0.850	0.242					

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.2226	-0.0251	0.0088	UNCORRECTED
CM	-0.0730	0.0295	0.0122	

TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 8

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 140

M	0.830	PTOT	0.900 BAR	K	0.355
ALPHA	0.0 DEG.	QINF	0.275 BAR	FREQ	21.0 HZ
RE	0.169D+08	TO	321.550 DEG. K	Y/S	0.618

DELTM -2.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.020	-0.347
0.050	-0.463
0.100	-0.522
0.150	-0.582
0.200	-0.663
0.250	-0.726
0.300	-0.719
0.325	-0.724
0.350	-0.731
0.375	-0.714
0.400	-0.720
0.425	-0.713
0.450	-0.695
0.475	-0.570
0.500	-0.455
0.550	-0.438
0.600	-0.455
0.650	-0.444
0.720	-0.392
0.760	-0.317
0.800	-0.243
0.830	-0.186
0.950	0.009
0.970	0.054
1.000	0.085

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	-0.045	-0.235	0.240	-100.83
0.100	0.076	-0.052	0.092	-34.70
0.200	0.099	-0.141	0.173	-55.04
0.300	0.127	-0.137	0.187	-47.34
0.350	0.136	-0.171	0.219	-51.54
0.400	0.147	-0.203	0.251	-54.12
0.450	0.648	-0.301	0.714	-24.89
0.500	1.213	-0.454	1.295	-20.54
0.600	-0.060	0.807	0.809	94.24
0.650	-0.261	0.604	0.658	113.37
0.690	-0.634	0.960	1.150	123.43
0.730	-0.386	0.137	0.410	160.43
0.750	-0.257	0.161	0.304	147.87
0.800	-0.197	0.073	0.210	159.81
0.970	-0.107	0.058	0.122	151.43

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.789
0.050	-0.300
0.100	-0.446
0.150	-0.560
0.200	-0.676
0.250	-0.794
0.300	-0.832
0.350	-0.787
0.400	-0.440
0.450	-0.380
0.500	-0.277
0.550	-0.144
0.600	-0.018
0.650	0.072
0.700	0.121
0.750	0.183
0.800	0.225

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.167	0.060	0.177	19.77
0.100	0.107	0.034	0.112	17.56
0.200	0.123	0.021	0.125	9.74
0.300	0.190	0.076	0.204	21.80
0.400	0.011	0.194	0.195	86.70
0.500	-0.002	-0.030	0.030	-93.58
0.600	0.023	-0.053	0.058	-66.43
0.700	-0.008	0.051	0.051	98.97
0.800	0.013	0.050	0.051	75.53
0.970	-0.024	0.077	0.081	107.58

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.1947	-0.0327	-0.0030	UNCORRECTED
CM	-0.0632	-0.0107	0.0347	

TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 9

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 140

M	0.830	PTOT	0.900 BAR	K	0.355
ALPHA	0.0 DEG.	QINF	0.275 BAR	FREQ	21.0 HZ
RE	0.169D+08	TO	321.550 DEG. K	Y/S	0.665

DELTM -2.0 DEG.

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.020	-0.306
0.050	-0.466
0.100	-0.506
0.150	-0.623
0.200	-0.680
0.250	-0.678
0.300	-0.581
0.325	-0.628
0.350	-0.668
0.375	-0.676
0.400	-0.646
0.425	-0.650
0.450	-0.540
0.475	-0.497
0.500	-0.509
0.600	-0.479
0.630	-0.473
0.680	-0.511
0.720	-0.408
0.760	-0.322
0.800	-0.249
0.830	-0.195
0.910	-0.072
0.930	0.010
0.970	0.042
1.000	0.080

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.054	-0.053	0.076	-44.56
0.100	0.037	-0.028	0.046	-36.42
0.200	0.067	-0.021	0.070	-17.68
0.300	0.042	-0.009	0.043	-11.50
0.350	0.037	-0.011	0.039	-16.26
0.400	-0.032	-0.027	0.042	-139.40
0.450	0.063	0.413	0.418	81.38
0.500	-0.737	-0.044	0.739	-176.59
0.600	0.168	-0.264	0.313	-57.48
0.680	0.128	-0.200	0.237	-57.41
0.700	0.151	-0.151	0.214	-45.00
0.730	0.111	-0.068	0.130	-31.68
0.810	0.047	-0.033	0.058	-35.26
0.870	0.037	-0.035	0.051	-42.93
0.910	0.043	-0.031	0.053	-35.79
0.930	0.038	-0.041	0.056	-46.93
0.950	0.002	0.008	0.009	79.70

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.789
0.050	-0.395
0.100	-0.433
0.150	-0.597
0.200	-0.687
0.250	-0.788
0.300	-0.830
0.350	-0.722
0.400	-0.470
0.450	-0.400
0.500	-0.286
0.600	-0.021
0.650	0.067
0.700	0.131
0.750	0.181
0.850	0.259
0.910	0.274
0.950	0.257

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.001	0.021	0.021	88.32
0.100	0.046	0.018	0.050	21.54
0.200	-0.004	-0.041	0.041	-95.01
0.300	0.056	-0.055	0.079	-44.43
0.400	0.145	-0.212	0.257	-55.68
0.500	0.119	-0.054	0.131	-24.34
0.600	0.031	-0.069	0.076	-65.66
0.700	0.035	-0.043	0.056	-51.23
0.800	0.037	-0.034	0.051	-42.58
0.870	0.029	-0.034	0.045	-49.03
0.950	0.028	-0.041	0.050	-55.98

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.2204	0.0547	-0.0105	UNCORRECTED
CM	-0.0913	-0.0115	-0.0036	

TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 11

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 140

M	0.830	PTOT	0.900 BAR	K	0.355	DELTM	-2.0 DEG.
ALPHA	0.0 DEG.	QINF	0.275 BAR	FREQ	21.0 HZ		
RE	0.169D+08	TO	321.550 DEG. K	Y/S	0.751		

< UPPER SURFACE >

STEADY DATA		UNSTEADY DATA				
			CPU/RAD			
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE
0.100	-0.475	0.050	0.117	-0.018	0.119	-8.75
0.200	-0.607	0.100	0.087	-0.036	0.094	-22.23
0.250	-0.544	0.200	0.091	-0.063	0.110	-34.77
0.300	-0.514	0.300	0.021	-0.213	0.214	-84.48
0.325	-0.492	0.350	0.161	-0.225	0.277	-54.42
0.350	-0.499	0.400	0.194	-0.176	0.262	-42.20
0.375	-0.496	0.450	0.129	-0.021	0.131	-9.04
0.400	-0.476	0.500	0.238	-0.040	0.241	-9.55
0.425	-0.506	0.600	0.312	0.097	0.327	17.31
0.450	-0.526	0.630	-0.025	0.090	0.093	105.42
0.475	-0.560	0.680	-0.225	0.155	0.273	145.39
0.500	-0.629	0.700	-0.285	0.106	0.304	159.68
0.550	-0.590	0.730	-0.149	0.0	0.149	180.00
0.600	-0.519	0.750	-0.082	-0.031	0.088	-159.09
0.634	-0.480	0.800	-0.029	-0.053	0.060	-119.22
0.680	-0.459	0.910	0.020	-0.027	0.033	-53.13
0.720	-0.372	0.930	0.024	-0.031	0.039	-51.58
0.800	-0.234	0.950	0.033	-0.019	0.038	-29.54
0.830	-0.191	0.970	0.044	-0.007	0.045	-9.46
0.910	-0.037					
0.950	0.014					
0.970	0.050					
1.000	0.103					

< LOWER SURFACE >

STEADY DATA		UNSTEADY DATA				
			CPL/RAD			
X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.0	0.788	0.050	0.019	-0.095	0.097	-78.69
0.050	-0.478	0.100	0.019	-0.077	0.079	-76.10
0.100	-0.495	0.200	0.101	-0.038	0.108	-20.56
0.200	-0.709	0.300	0.091	-0.139	0.166	-56.83
0.250	-0.819	0.400	0.316	-0.101	0.332	-17.78
0.300	-0.868	0.500	0.219	-0.062	0.228	-15.68
0.350	-0.802	0.600	0.113	-0.022	0.116	-10.82
0.400	-0.442	0.700	0.159	-0.076	0.176	-25.56
0.450	-0.377	0.800	0.199	-0.072	0.212	-19.98
0.500	-0.278	0.910	0.118	-0.033	0.122	-15.50
0.550	-0.143	0.950	0.113	-0.020	0.115	-10.01
0.600	-0.032					
0.700	0.126					
0.750	0.175					
0.910	0.272					
0.950	0.259					

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.1387	0.0689	-0.0232	UNCORRECTED
CM	-0.0961	-0.0352	0.0119	

TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 13

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 140

M	0.830	PTOT	0.900 BAR	K	0.355	DELTM	-2.0 DEG.
ALPHA	0.0 DEG.	QINF	0.275 BAR	FREQ	21.0 HZ		
RE	0.169D+08	TO	321.550 DEG. K	Y/S	0.854		

< UPPER SURFACE >

STEADY DATA		UNSTEADY DATA				
			CPU/RAD			
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE
0.010	0.242	0.050	0.199	-0.041	0.203	-11.63
0.020	-0.132	0.100	0.183	-0.041	0.187	-12.65
0.030	-0.222	0.200	0.252	-0.039	0.255	-8.84
0.050	-0.332	0.300	0.170	0.069	0.183	22.07
0.100	-0.385	0.350	0.139	0.096	0.169	34.51
0.150	-0.508	0.400	0.119	0.113	0.164	43.45
0.200	-0.444	0.450	0.071	0.196	0.208	70.10
0.250	-0.474	0.500	-0.278	0.485	0.559	119.79
0.300	-0.470	0.650	-1.007	0.025	1.008	178.57
0.350	-0.470	0.700	-1.237	-0.087	1.240	-175.99
0.375	-0.489	0.720	-1.484	-0.120	1.489	-175.38
0.400	-0.497	0.820	-1.740	-0.362	1.777	-168.25
0.425	-0.531	0.910	-0.203	-0.165	0.262	-140.98
0.450	-0.557	0.950	0.238	-0.104	0.260	-23.68
0.475	-0.559					
0.500	-0.578					
0.575	-0.455					
0.600	-0.408					
0.650	-0.356					
0.675	-0.299					
0.700	-0.277					
0.750	-0.194					
0.800	-0.200					
0.850	-0.165					
0.900	-0.093					
0.950	-0.003					
1.000	0.115					

< LOWER SURFACE >

STEADY DATA		UNSTEADY DATA				
			CPL/RAD			
X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.0	0.815	0.050	0.078	-0.133	0.154	-59.55
0.010	-0.050	0.100	0.155	-0.085	0.177	-28.69
0.030	-0.549	0.200	0.141	-0.177	0.226	-51.57
0.050	-0.678	0.300	0.283	-0.373	0.469	-52.81
0.200	-0.733	0.400	0.695	-0.044	0.696	-3.62
0.300	-0.870	0.500	0.668	0.009	0.669	0.74
0.400	-0.420	0.600	0.746	0.082	0.750	6.31
0.500	-0.268	0.800	1.192	0.124	1.198	5.93
0.600	-0.099					
0.700	0.082					
0.800	0.184					
0.850	0.223					
0.900	0.242					
0.950	0.237					

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.0591	0.9473	-0.0465	UNCORRECTED
CM	-0.0828	-0.4320	-0.0320	

TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 14

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 140

M	0.830	PTOT	0.900 BAR	K	0.355	DELTM	-2.0 DEG.
ALPHA	0.0 DEG.	QINF	0.275 BAR	FREQ	21.0 HZ		
RE	0.169D+08	TO	321.550 DEG. K	Y/S	0.885		

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.010	0.271
0.020	0.002
0.030	-0.151
0.050	-0.281
0.100	-0.376
0.200	-0.451
0.250	-0.442
0.300	-0.457
0.350	-0.465
0.375	-0.440
0.400	-0.448
0.425	-0.472
0.450	-0.490
0.475	-0.478
0.500	-0.461
0.525	-0.450
0.550	-0.416
0.575	-0.375
0.600	-0.320
0.625	-0.285
0.675	-0.269
0.700	-0.271
0.750	-0.204
0.850	-0.156
0.900	-0.082
0.950	0.006
1.000	0.111

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.296	-0.028	0.297	-5.45
0.100	0.218	0.015	0.218	3.92
0.140	0.425	0.097	0.436	12.80
0.200	0.185	0.092	0.207	26.35
0.250	0.217	0.181	0.282	39.91
0.300	0.160	0.212	0.266	52.98
0.350	0.105	0.258	0.279	67.85
0.400	-0.088	0.355	0.366	103.84
0.450	-0.519	0.428	0.673	140.51
0.500	-0.790	0.169	0.808	167.93
0.550	-0.970	-0.030	0.971	-178.21
0.600	-1.315	0.296	1.347	167.30
0.700	-2.390	-0.280	2.407	-173.32
0.800	-2.561	-0.464	2.603	-169.73
0.900	-0.053	-0.411	0.415	-97.39

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.816
0.010	-0.045
0.030	-0.634
0.050	-0.793
0.300	-0.924
0.400	-0.413
0.500	-0.304
0.600	-0.129
0.700	0.083
0.800	0.177
0.850	0.216
0.900	0.233
0.950	0.234

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.078	-0.037	0.086	-25.20
0.100	0.064	-0.107	0.125	-58.98
0.200	0.174	-0.080	0.192	-24.70
0.300	0.209	-0.089	0.227	-23.03
0.400	0.976	-0.309	1.023	-17.55
0.500	0.926	0.049	0.927	3.01
0.700	1.025	0.162	1.037	9.01
0.850	1.243	0.216	1.262	9.85

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	-0.0637	1.2937	-0.0052	UNCORRECTED
CM	-0.0795	-0.5628	-0.0626	

TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP HALFSPAN : 4.0161 M SECTION 15

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 140

M	0.830	PTOT	0.900 BAR	K	0.355	DELTM	-2.0 DEG.
ALPHA	0.0 DEG.	QINF	0.275 BAR	FREQ	21.0 HZ		
RE	0.169D+08	TO	321.550 DEG. K	Y/S	0.944		

< UPPER SURFACE >

STEADY DATA

X/C	CPU
0.010	0.506
0.020	0.093
0.030	-0.071
0.050	-0.254
0.100	-0.394
0.150	-0.405
0.200	-0.398
0.250	-0.388
0.300	-0.393
0.350	-0.388
0.375	-0.396
0.400	-0.373
0.425	-0.387
0.450	-0.393
0.475	-0.403
0.500	-0.409
0.525	-0.376
0.575	-0.362
0.600	-0.337
0.650	-0.309
0.675	-0.296
0.700	-0.281
0.750	-0.256
0.800	-0.258
0.850	-0.193
0.900	-0.132
0.950	-0.048
1.000	0.064

UNSTEADY DATA

	CPU/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.175	0.079	0.192	24.44
0.100	0.136	0.109	0.174	38.58
0.140	0.098	0.100	0.140	45.69
0.200	0.037	0.135	0.140	74.64
0.250	-0.042	0.144	0.150	106.19
0.300	-0.136	0.150	0.202	132.31
0.350	-0.232	0.166	0.285	144.54
0.400	-0.309	0.149	0.343	154.24
0.450	-0.460	0.131	0.478	164.05
0.500	-0.712	0.062	0.715	175.04
0.550	-0.627	0.041	0.628	176.22
0.600	-0.749	-0.016	0.750	-178.74
0.650	-0.893	-0.108	0.900	-173.11
0.700	-0.992	-0.199	1.012	-168.67
0.850	-1.317	-0.326	1.357	-166.11
0.900	-0.363	-0.209	0.419	-150.10

< LOWER SURFACE >

STEADY DATA

X/C	CPL
0.0	0.818
0.030	-0.129
0.100	-0.826
0.200	-0.702
0.300	-0.849
0.400	-0.297
0.500	-0.298
0.600	-0.150
0.700	0.030
0.800	0.171
0.850	0.199
0.900	0.204
0.950	0.174

UNSTEADY DATA

	CPL/RAD			
X/C	REAL	IMAG	MAG	PHASE
0.050	0.154	-0.152	0.216	-44.61
0.100	0.293	-0.429	0.520	-55.67
0.200	0.312	-0.094	0.326	-16.79
0.400	0.281	0.260	0.383	42.79
0.500	1.008	0.205	1.029	11.47
0.600	1.736	0.047	1.737	1.56
0.700	1.234	0.211	1.252	9.69
0.800	1.546	0.360	1.587	13.10
0.850	0.773	0.284	0.823	20.15

	STEADY	UNSTEADY REAL	UNSTEADY IMAG	
CL	0.0265	1.0889	0.0885	UNCORRECTED
CM	-0.0725	-0.4171	-0.0857	

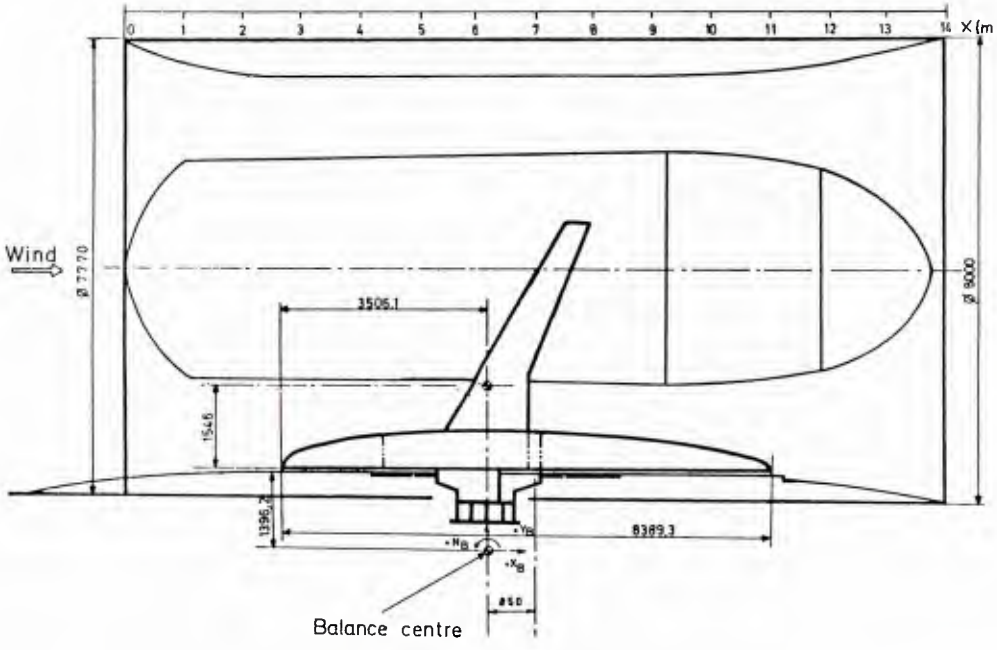


FIG. 8.1 Model set-up in test section, side view

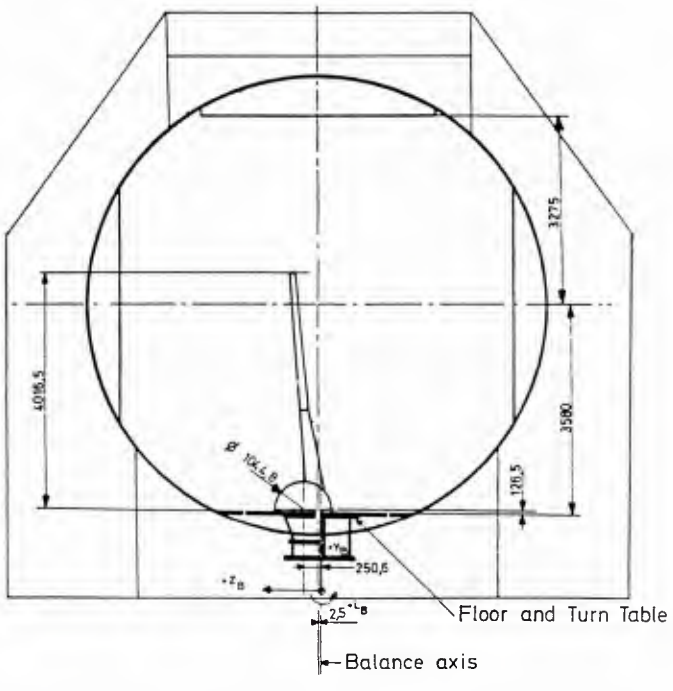
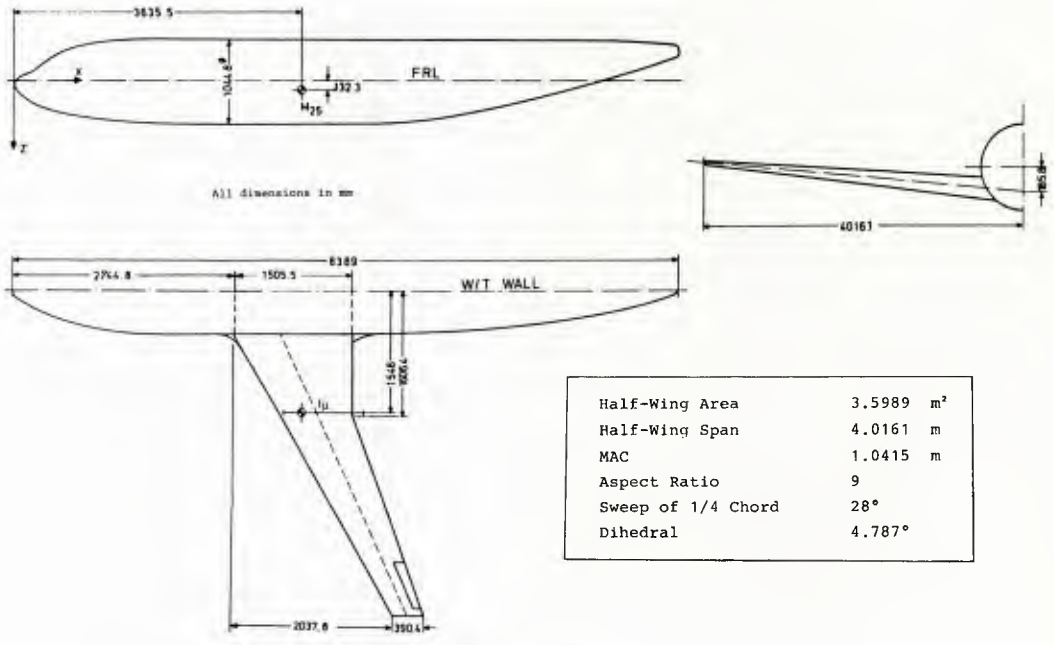


FIG. 8.2 Model set-up in test section, head-on view



Half-Wing Area	3.5989	m²
Half-Wing Span	4.0161	m
MAC	1.0415	m
Aspect Ratio	9	
Sweep of 1/4 Chord	28°	
Dihedral	4.787°	

FIG. 8.3 Geometry of experimental ZKP model

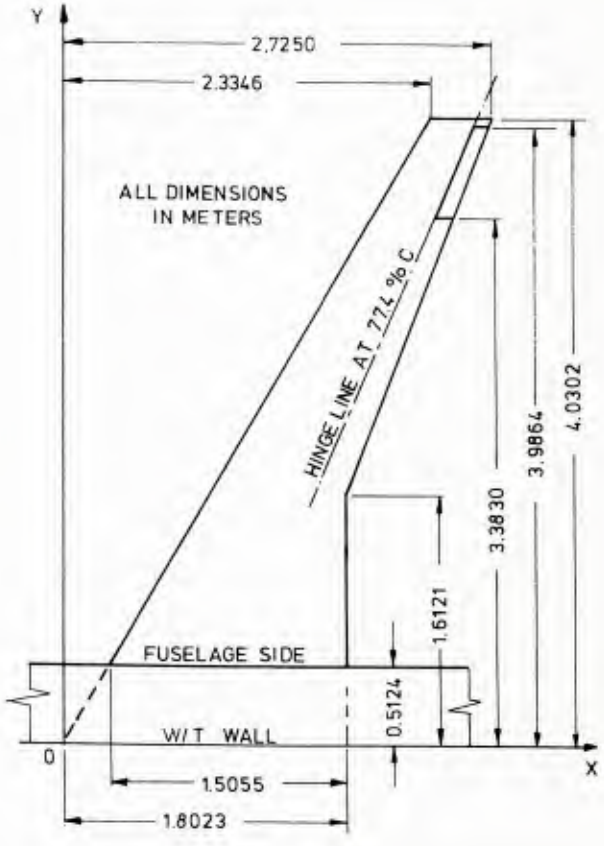


FIG. 8.4 Geometry of experimental ZKP wing, rotated into profile-coordinate plane by dihedral angle φ = 4.787 deg

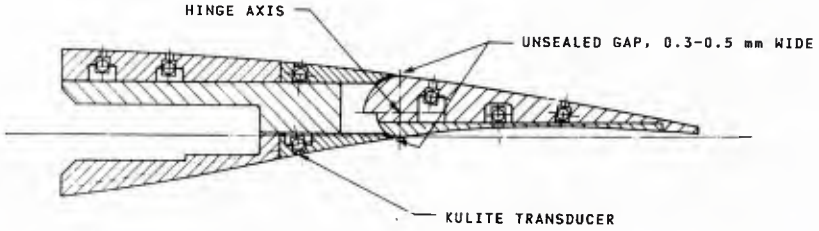


FIG. 8.5 Aileron geometry in cross-section at wing section 14

Steady press. taps		
Section	η	Number
DV1	0.250	45
DV2	0.357	45
DV3	0.450	3
DV4	0.483	58
DV5	0.528	2
DV6	0.573	53
DV7	0.588	3
DV8	0.618	52
DV9	0.669	55
DV10	0.703	2
DV11	0.755	54
DV12	0.800	2
DV13	0.850	45
DV14	0.889	45
DV15	0.940	45

Unsteady press. taps		
Section	η	Number
K1	0.254	31
K2	0.353	31
K3	0.450	19
K4	0.479	32
K5	0.528	19
K6	0.569	34
K7	0.584	5
K8	0.618	31
K9	0.665	37
K10	0.700	20
K11	0.751	35
K12	0.800	19
K13	0.854	26
K14	0.885	23
K15	0.944	23

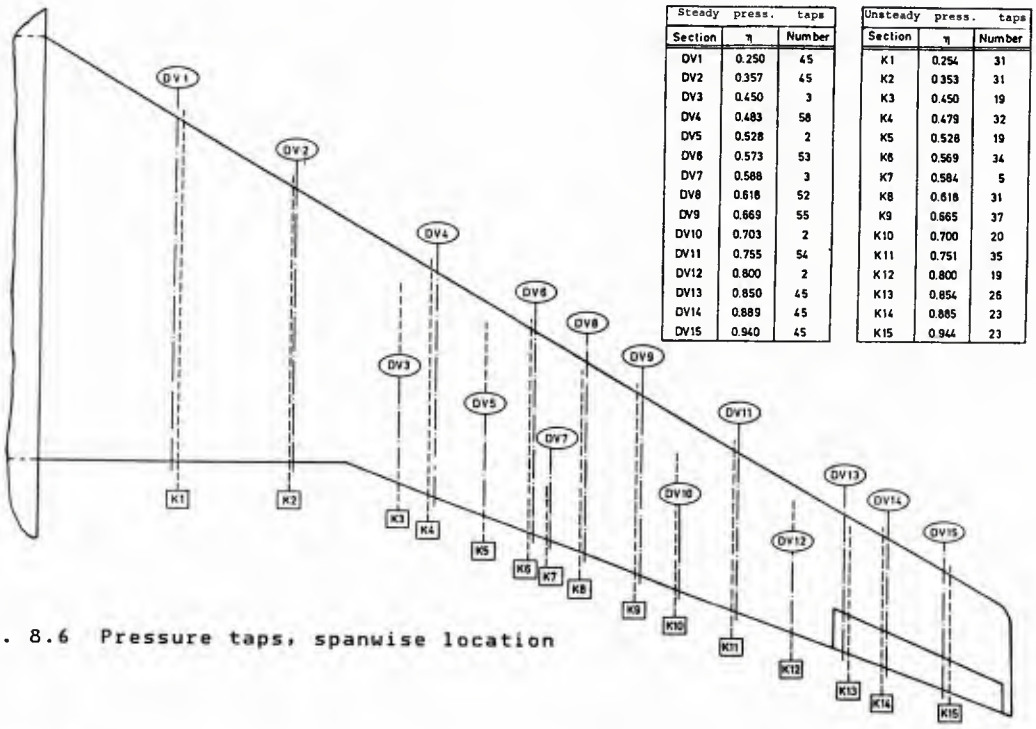


FIG. 8.6 Pressure taps, spanwise location

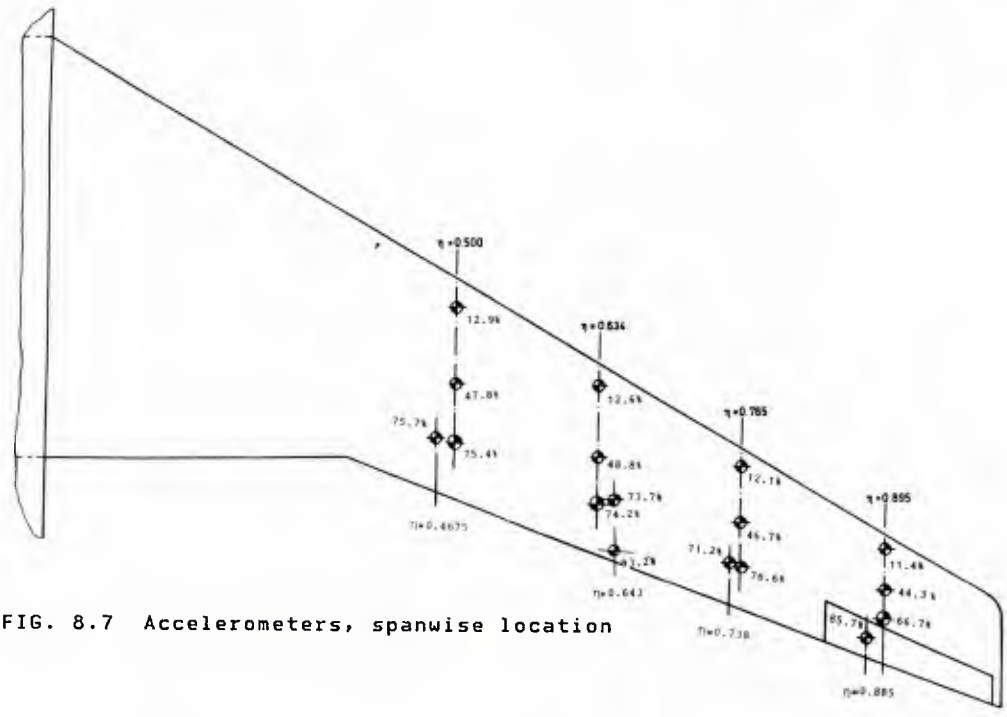


FIG. 8.7 Accelerometers, spanwise location

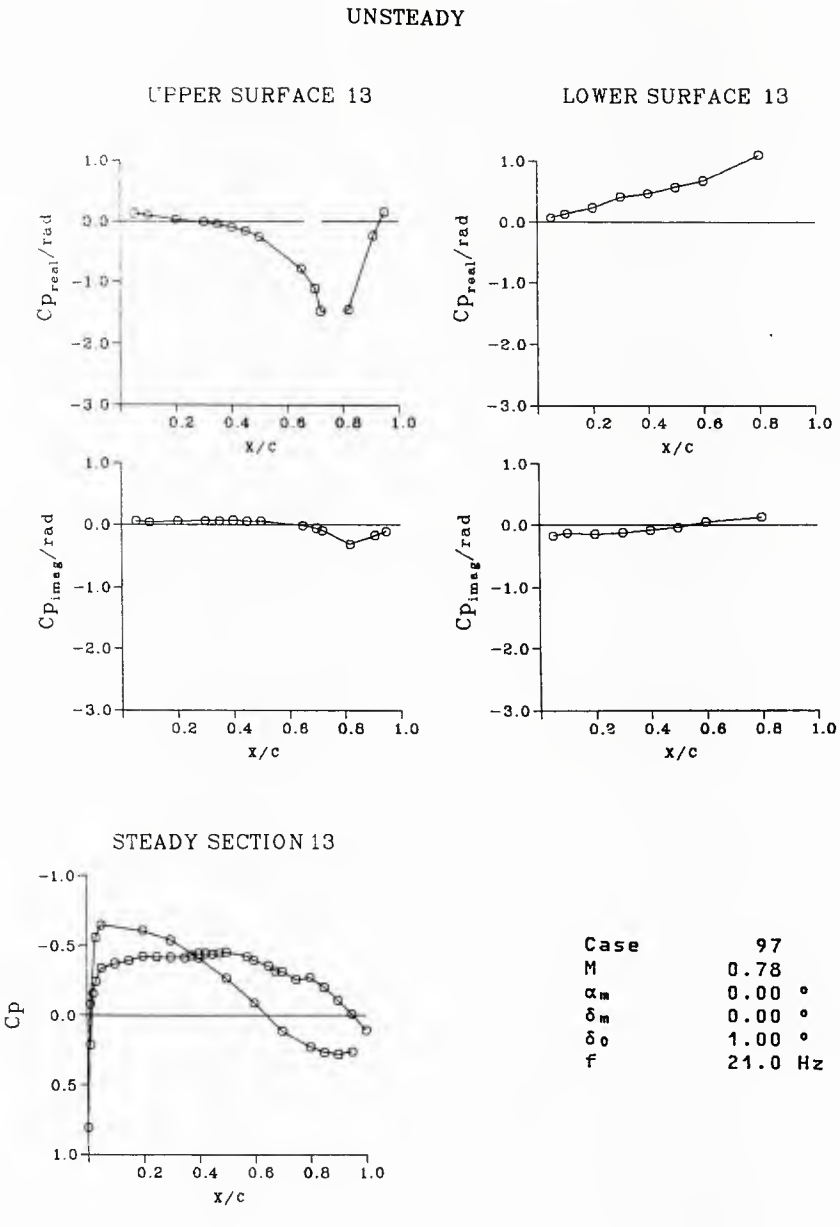


FIG. 8.8 Sample pressure distribution for aileron section

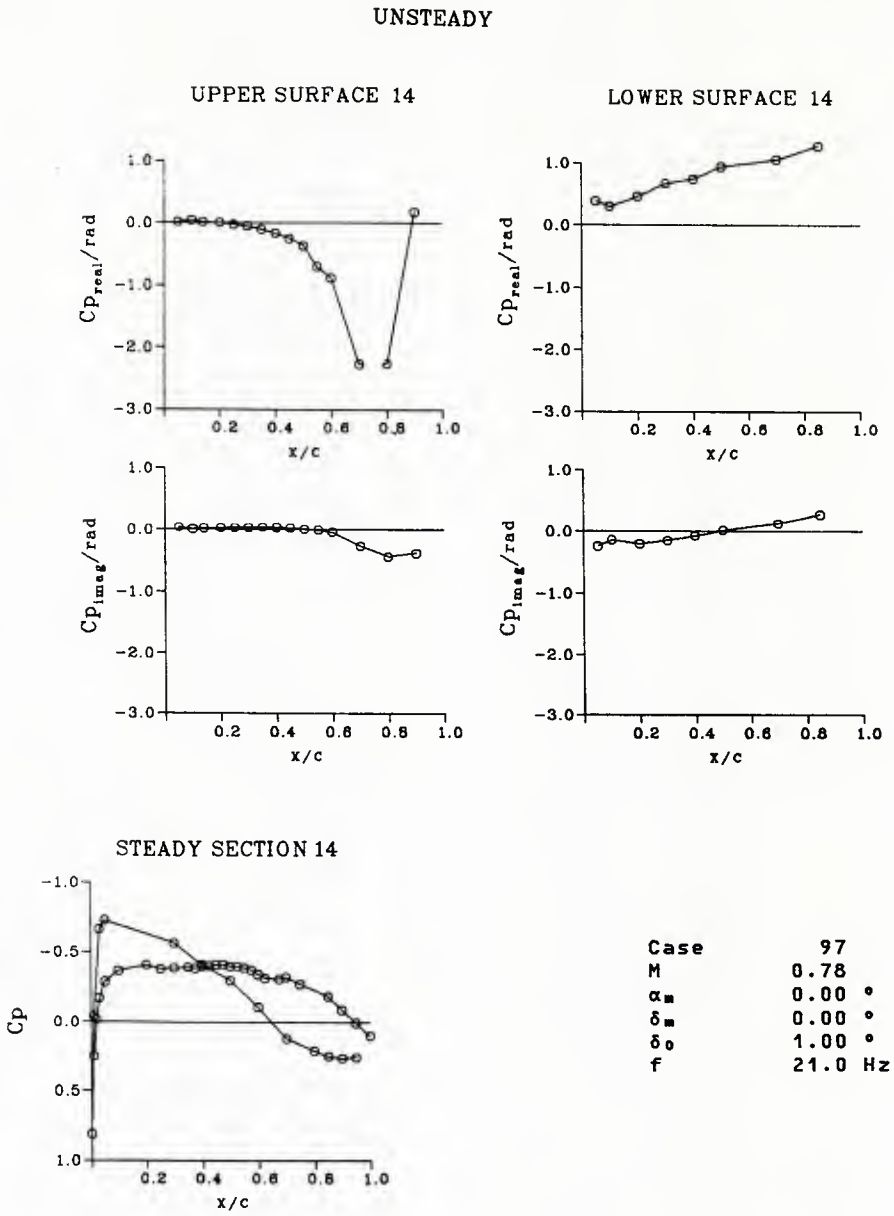


FIG. 8.9 Sample pressure distribution for aileron section

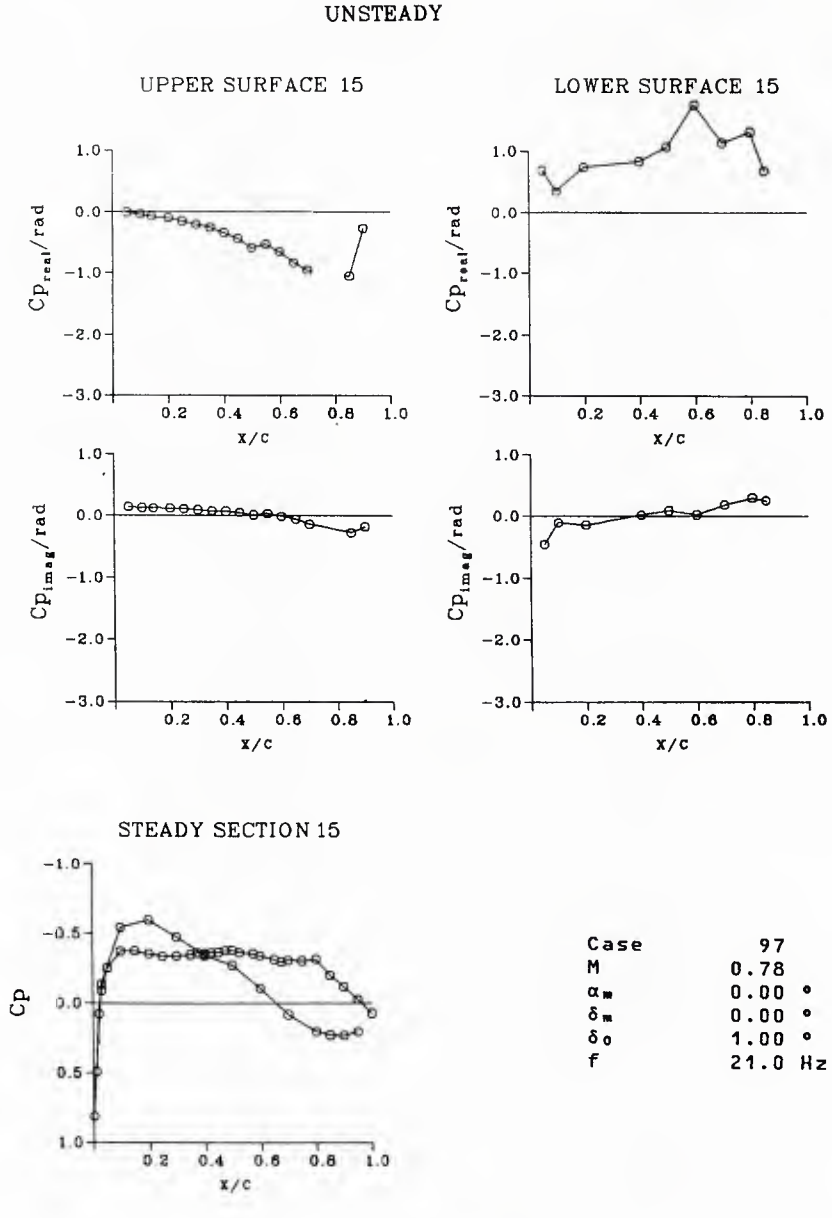


FIG. 8.10 Sample pressure distribution for aileron section

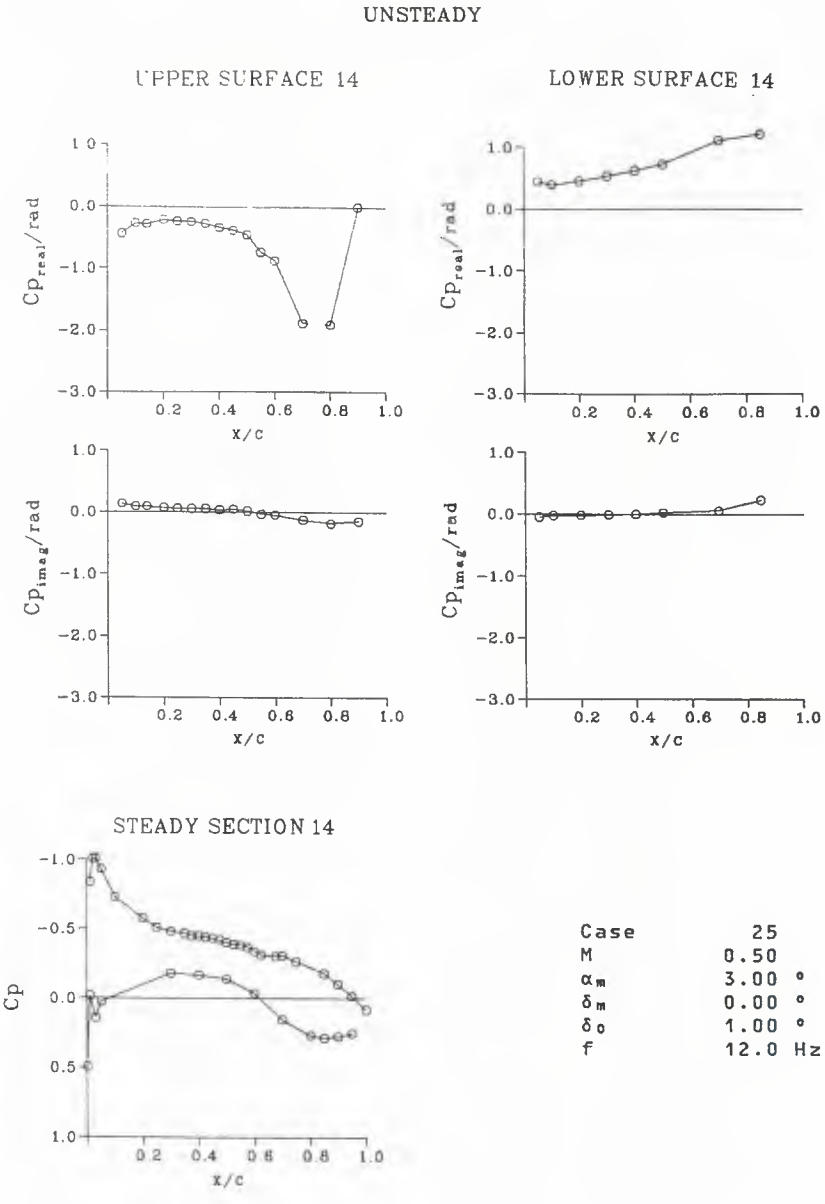


FIG. 8.11 Sample pressure distribution for aileron section

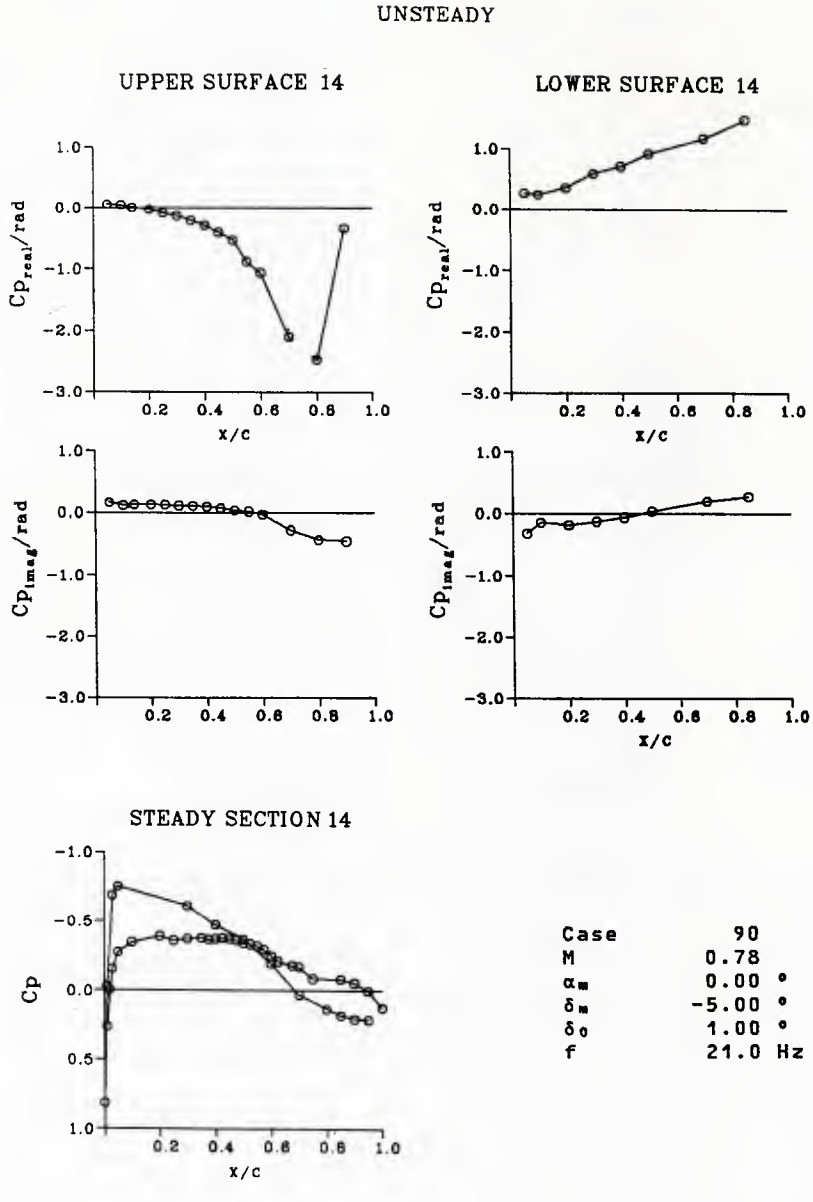


FIG. 8.12 Sample pressure distribution for aileron section

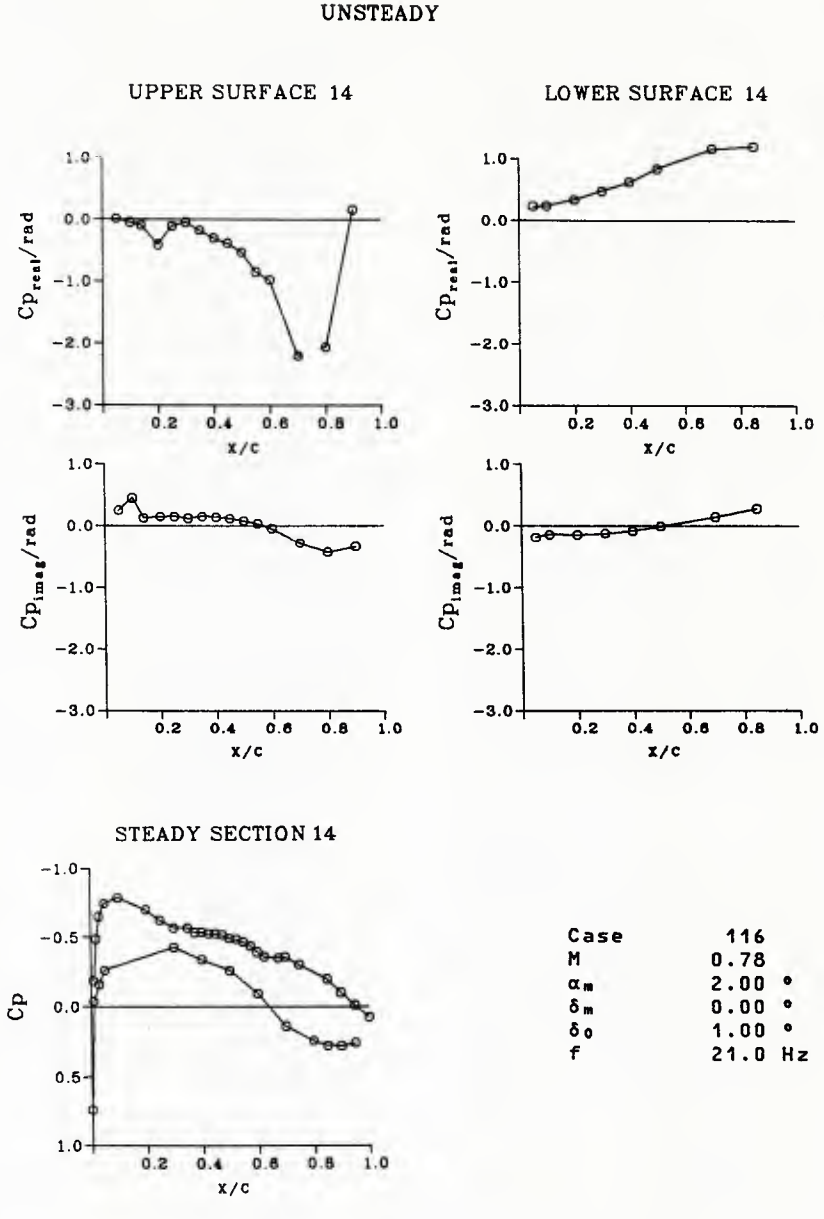


FIG. 8.13 Sample pressure distribution for aileron section

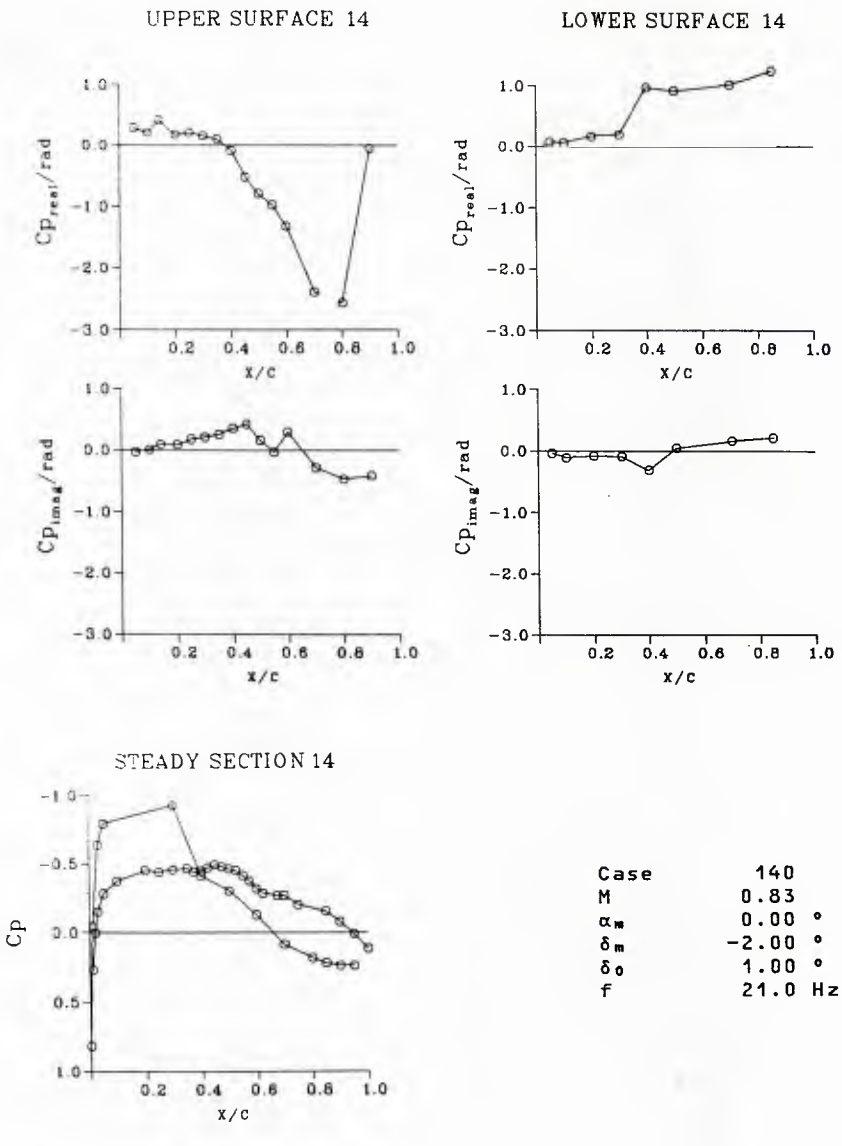


FIG. 8.14 Sample pressure distribution for aileron section

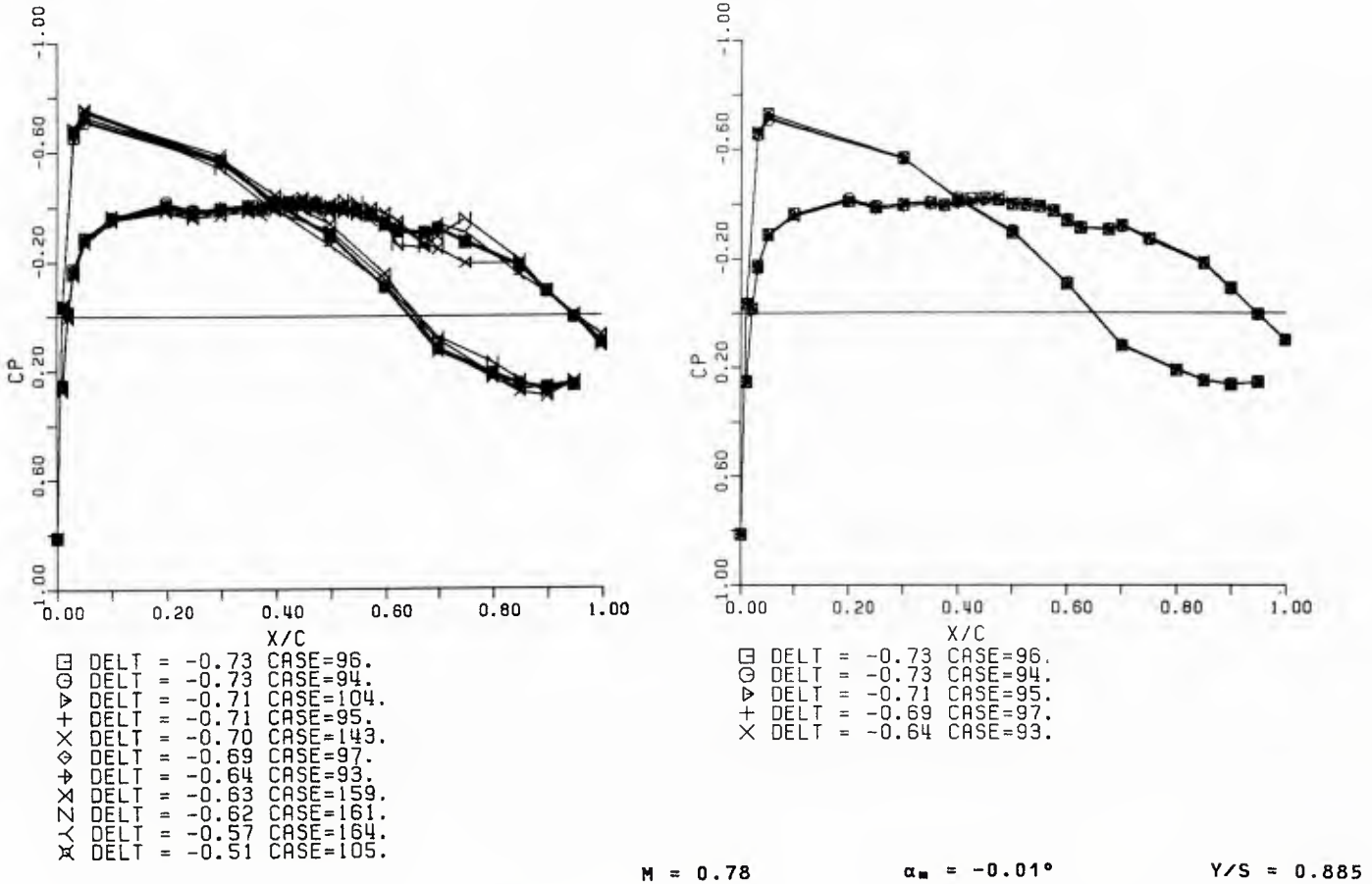


FIG. 8.15 Repeatability check for various cases

DATA SET 9

LANN WING. PITCHING OSCILLATION

by

Ir R.J.Zwaan,
Head of Aeroelasticity Dept.
National Aerospace Lab. NLR
P.O. Box 90502
1006 BM Amsterdam
The Netherlands

INTRODUCTION

This Data Set relates to a semi-span model of a transport-type wing with a supercritical aerofoil from root to tip (Fig. 9.1). The data were obtained during a co-operative programme of Lockheed-Georgia, Air Force Flight Dynamics Laboratory, NASA-Langley and NLR, through which the model received its name LANN model (Refs. 9.1, 9.2). One of the objectives of this programme, being of interest here, was to create an experimental data base for steady and unsteady transonic computer code evaluation.

The wing geometry was designed by Lockheed-Georgia, where the wing became known as wing A (Ref. 9.3). A smaller scale model was already tested in steady flow.

The mean test conditions are shown in Fig. 9.2. In view of the intended correlations of experimental and calculated data, the greater part of the test runs was carried out with attached flow. The results were presented in a revised form in Ref. 9.2. Examples of the mean steady and the unsteady pressure distributions are given in Fig. 9.3 and of spanwise load distributions in Fig. 9.4.

In Ref. 9.4 CT cases were proposed at a time when the test had still to be carried out. As all test runs were made at more or less different conditions, a modified set of CT cases is proposed in this Data Set. The modifications, however, leave the kind of parameter variations as foreseen in the original set of Ref. 9.4 practically unchanged. The modified cases have been used already as a basis for calculations at NLR with the so-called quasi-three-dimensional unsteady transonic method (Refs. 9.5, 9.6). From the correlation of experimental and calculated data it appears that the correlation can be made most appropriately for the pressure distributions. The correlation of sectional coefficients is hampered by less accurate experimental values caused by a number of failing pressure tubes (see Ref. 9.1, Part I) in regions of strong pressure gradients (shock, leading edge).

1 GENERAL DESCRIPTION OF MODEL

1.1	Designation	LANN wing
1.2	Type	Half model
1.3	Derivation	Wing A, Ref. 9.3
1.4	Additional remarks	-
1.5	References	Ref. 9.1, Part I

2 MODEL GEOMETRY

2.1	Planform	Tapered
2.2	Aspect ratio	7.92
2.3	Leading-edge sweep	27.493 deg
2.4	Trailing-edge sweep	16.908 deg
2.5	Taper ratio	0.4
2.6	Twist	-4.8 deg
2.7	Root chord	360.8 mm
2.8	Span of model	1000 mm (tapered part, excluding tip fairing of 8.7 mm)
2.9	Area of planform	0,2526 m^2 (idem)
2.10	Location of reference sections and definition of profiles	12% supercritical airfoil. Measured co-ordinates of 8 wing sections relative to model reference plane, are given in Table 9.1. For computational model see Table 5 of Ref. 9.4.

2.11	Lofting procedure between reference sections	Linearly lofted from root to tip
2.12	Form of wing-body, or wing-root junction	No body; labyrinth at root
2.13	Form of wing tip	Actual model: tip fairing with radius equal to half tip aerofoil thickness Computational model: square cut at 1000 mm span
2.14	Control surface details	None
2.15	Additional remarks	-
2.16	References	Ref. 9.1, Part I

3 WIND TUNNELS

3.1	Designation	NLR High Speed Tunnel (HST)
3.2	Type of tunnel	Continuous, variable pressure
3.3	Test section dimensions	Height = 1.60 m, width = 2.00 m, length = 2.50 m
3.4	Type of roof and floor	Slotted, each having 4 whole slots and a ½ slot at each corner
3.5	Type of side walls	Solid
3.6	Ventilation geometry	Roof and floor are 12% open
3.7	Thickness of side wall boundary layer	About 7 mm
3.8	Thickness of boundary layers at roof and floor	-
3.9	Method of measuring Mach number	Derived from settling chamber stagnation and plenum chamber static pressures
3.10	Flow angularity	-
3.11	Uniformity of Mach number over test section	-
3.12	Sources and levels of noise or turbulence in empty tunnel	Less than 1% in rms p/q for M = 0.8
3.13	Tunnel resonances	No evidence of resonance in present test
3.14	Additional remarks	Information about flow angularity and Mach number uniformity available only along test section centre-line
3.15	References on tunnel	Ref. 9.7

4 MODEL MOTION

4.1	General description	Sinusoidal pitching about axis normal to wind tunnel side-wall. Axis location at x = 224.0 mm
4.2	Reference coordinate and definition of motion	Model displacements relative to displacement transducer (LVDT) at x = 101.5 mm, y = -200 mm. Intended rigid-body pitching influenced by elastic deformations at all test frequencies. See 4.8
4.3	Range of amplitude	0 to 1 deg. in streamwise plane, at the root
4.4	Range of frequency	0, 12, 24, 36, 48, 60, 72 Hz
4.5	Method of applying motion	Forced by hydraulic excitation
4.6	Timewise purity of motion	Adequate purity of sinusoid
4.7	Natural frequencies and normal modes of model and support system	First bending frequency at 30.6 Hz, second bending frequency at 104.5 Hz
4.8	Actual mode of applied motion including any elastic deformation	See tables 9.11 to 9.20 under "DISPLACEMENTS REL. TO LVDT". Variations of nodal line positions are shown in Fig. 9.5
4.9	Additional remarks	

5 TEST CONDITIONS

5.1	Model planform area/ tunnel area	0.079
5.2	Model span/tunnel width	0.5
5.3	Blockage	0.5%
5.4	Position of model in tunnel	Standard side-wall position
5.5	Range of Mach number	0.62, 0.72, 0.77, 0.82, 0.87, 0.95
5.6	Range of tunnel total pressure	1.3 to 1.5 Kpa
5.7	Range of tunnel total temperature	12 to 35^{o} C
5.8	Range of model steady, or mean, incidence	0.6, 2.6, 3.0, 5.0 deg
5.9	Definition of model incidence	Model incidence defined relative to model reference plane
5.10	Position of transition, if free	-
5.11	Position and type of trip, if transition fixed	5.4 mm behind leading edge at each side; width = 2 mm. Grit: 62 μm carborundum 220
5.12	Flow instabilities during tests	None encountered
5.13	Changes to mean shape of model due to steady aerodynamic load	Not measured. Mean model deflections can be calculated using the spanwise stiffness distributions given in Ref. 9.1, Part I, App. C
5.14	Additional remarks	-
5.15	References describing tests	Ref. 9.1, Part I

6 MEASUREMENTS AND OBSERVATIONS

6.1	Steady pressures for the mean conditions	✓
6.2	Steady pressures for small changes from the mean conditions	✓
6.3	Quasi-steady pressures	-
6.4	Unsteady pressures	✓
6.5	Steady section forces for the mean conditions by integration of pressures	✓
6.6	Steady section forces for small changes from the mean conditions by integration	✓
6.7	Quasi-steady section forces by integration	-
6.8	Unsteady section forces by integration	✓
6.9	Measurement of actual motion at points on model	✓
6.10	Observation or measurement of boundary layer properties	-
6.11	Visualization of surface flow	-
6.12	Visualization of shock wave movements	-
6.13	Additional remarks	-

7 INSTRUMENTATION

7.1	Steady pressure	
7.1.1	Position of orifices spanwise and chordwise	See table 9.2
7.1.2	Type of measuring system	Combination of 212 tubes and 22 miniature pressure transducers, measuring mean values and first harmonics (and higher, if necessary) of each pressure signal. See Fig. 9.6
7.2	Unsteady pressures	
7.2.1	Position of orifices spanwise and chordwise	See tables 9.2 and 9.3

7.2.2	Diameter of orifices	0.79 mm
7.2.3	Type of measuring system	See 7.1.2
7.2.4	Type of transducers	In scanning values: Statham type PM 131 TC In situ: Endevco type 8507-SMI
7.2.5	Principle and accuracy of calibration	Data acquisition system was calibrated daily, pressure transducers before and after wind tunnel test. Accuracy is 1%
7.3	Model motion	
7.3.1	Method of measuring motion reference coordinate	Linear variable differential transducer Sangamo type AFG 5.0 S
7.3.2	Method of determining spatial mode of motion	Twelve accelerometers Endevco type 2220 C installed within model, of which eight operative. See table 9.4 and Fig. 9.6
7.3.3	Accuracy of measured motions	Accelerometers: response deviation at 50 Hz is 1% LVDT: better than 0.015 mm
7.4	Processing of unsteady measurements	
7.4.1	Method of acquiring and processing measurements	See Fig. 9.7
7.4.2	Type of analysis	Averaging and determination of first and higher harmonics took place over signal lengths of 1s (steady) or about 1s with round-off to integral number of cycles (unsteady)
7.4.3	Unsteady pressure quantities obtained and accuracies achieved	Fundamental harmonics and occasionally second and third harmonics. For accuracy, see 9.1.6
7.4.4	Method of integration to obtain forces	Trapezoidal rule. For accuracy, see 9.9
7.5	Additional remarks	Temperature within model was measured by a Unicurve thermistor (accuracy ± 0.2°C)
7.6	References on techniques	Refs. 9.8, 9.9
8	DATA PRESENTATION	
8.1	Test cases for which data could be made available	Tables 9.5 to 9.9
8.2	Test cases for which data are included in this document	Table 9.10
8.3	Steady pressures	Tables 9.11 to 9.24
8.4	Quasi-steady or steady perturbation pressures	Tables 9.21 to 9.24
8.5	Unsteady pressures	Tables 9.11 to 9.20
8.6	Steady forces or moments	Tables 9.11 to 9.24
8.7	Quasi-steady or steady perturbation forces	Tables 9.21 to 9.24
8.8	Unsteady forces and moments	Tables 9.11 to 9.20
8.9	Other forms in which data could be made available	Data were stored on tape: see Ref. 9.1, Part I
8.10	References giving other presentations of data	Data are presented in plotted form in Ref. 9.1, Parts I and II
	COMMENTS ON DATA	
9.1	Accuracy	
9.1.1	Mach number	± 0.001
9.1.2	Steady incidence	± 0.01 deg at LVDT position
9.1.3	Reduced frequency	± 0.0005

9.1.4	Steady pressure coefficients	C_p better than ± 0.005
9.1.5	Steady pressure derivatives	-
9.1.6	Unsteady pressure coefficients	Uncertainty in the real and imaginary parts of the coefficients is probably ± (0.02 + 0.05 Q), where Q = |R| or |I|
9.2	Sensitivity to small changes of parameter	-
9.3	Non-linearities	Negligible at 24 Hz. At 48 Hz higher, but still acceptable
9.4	Influence of tunnel total pressure	Effects of Reynolds number not examined
9.5	Effects on data of uncertainty, or variation, in mode of model motion	For uncertainty in values of oscillatory aerodynamic coefficients, see Introduction and 9.9. A list of failing pressure tubes is given in Ref. 9.1, Part I. For model oscillatory deformation see at the end of section 12, "Table 9.11 to 9.20", subsection 2
9.6	Wall interference corrections	None. Values of M and α_m are wind tunnel settings
9.7	Other relevant tests on same model	-
9.8	Relevant tests on other models of nominally the same shape	Ref. 9.3 for relevant steady tests
9.9	Any remarks relevant to comparison between experiment and theory	If pressure tubes were operative in regions of large pressure gradients, the relative error of oscillatory sectional lift coefficients is estimated to be better than 5% in real and imaginary parts. If pressure tubes failed in these regions, the lift coefficients are less accurate. Correction of these coefficients is considered to be almost completely arbitrary and has not been applied
9.10	Additional remarks	-
9.11	References on discussion of data	Ref. 9.1, Part I

10 PERSONAL CONTACT FOR FURTHER INFORMATION

J.J. Horsten, National Aerospace Laboratory (NLR), Anthony Fokkerweg 2, 1059 CM Amsterdam, The Netherlands

11 LIST OF REFERENCES

9.1	J.J. Horsten R.G. den Boer R.J. Zwaan	Unsteady transonic pressure measurements on a semi-span wind-tunnel model of a transport-type supercritical wing (LANN model) Part I: General description, aerodynamic coefficients and vibration modes. Part II: Pressure distributions (plotted and printed) and plots of the vibration modes. AFWAL-TR-83-3039 (1983). Also: NLR TR 82069 U (1982)
9.2	R.G. den Boer	Revised results of the unsteady transonic pressure measurements on the LANN model NLR TR 85 U (1985)(to be published)
9.3	B.L. Hinson K.P. Burdges	An evaluation of three-dimensional transonic codes using new correlation-tailored test data AIAA 18th Aerospace Sciences Meeting, Jan. 14-16, 1980/Pasadena, California. Paper AIAA-80-0003
9.4	S.R. Bland	AGARD Three-dimensional aeroelastic configurations AGARD-AR-167 (1982)
9.5	A. Steiginga R. Houwink	Correlation of experimental and quasi-3-d theoretical airloads on the oscillating LANN supercritical wing model AFWAL-TR-83-3050 (1983). Also: NLR TR 83003 U (1983)
9.6	J.B. Malone S.Y. Ruo J.J. Horsten R. Houwink	The LANN program: An experimental and theoretical study of steady and unsteady transonic airloads on a supercritical wing AIAA 16th Fluid and Plasma Dynamics Conference, Danvers, Mass., July 12-14, 1983, Paper AIAA-83-1686
9.7	-	Users' guide to the High Speed Wind tunnel (HST). Revised edition (1977)
9.8	J.J. Horsten	Recent developments in the unsteady pressure measuring technique at NLR International Symposium on Aeroelasticity, Oct. 5-7, 1981/Nuremberg.

DGLR-Bericht 82-01 (1982). Also: NLR MP 81055 U (1981)

9.9 R.G. den Boer — Boundary layer effects in the NLR measuring technique of unsteady pressures on oscillating windtunnel models.
NLR TR 85 U (1985) (to be published).

12 NOTATION

DATA SET:	STANDARD:
ALFA	mean model incidence, α_m, deg
c_{AC}	mean aerodynamic chord, c_{AC} = 0.268 m
Cm	steady sectional pitching moment coefficient about quarter-chord, C_m, or steady wing pitching moment coefficient about aerodynamic centre, $\int_o^s [C_m + C_l\ (x_{AC}/c-0.25)]c^2dy/(Sc_{AC})$
Cz	steady sectional normal force coefficient, C_l, or steady wing normal force coefficient, $\int_o^s C_l c\ dy/S$
Cmi RE, IM	real and imaginary components of oscillatory sectional pitching moment coefficient about quarter-chord, $2\ \bar{C}_m/(\pi\alpha_o)$, rad^{-1}, or of oscillatory wing pitching moment coefficient about aerodynamic centre, $2\int_o^s[\bar{C}_m + \bar{C}_l\ (x_{AC}/c-0.25)\ c^2dy/(\pi Sc_{AC}\alpha_o)$, rad^{-1}
Cp RE, IM	real and imaginary components of oscillatory pressure coefficient, $\bar{C}_p/\alpha_o$, rad^{-1}
Czi RE, IM	real and imaginary components of oscillatory sectional normal force coefficient, $\bar{C}_l/(\pi\alpha_o)$, rad^{-1}, or of oscillatory wing normal force coefficient, $\int_o^s \bar{C}_l\ c\ dy/(\pi S\alpha_o)$, rad^{-1}
DALFA	amplitude of oscillatory wing incidence at LVDT position, α_o, deg
FREQ.	frequency, f, Hz
HARM.	order of harmonic
MACH	Mach number
M-LOC.	local Mach number
P-SETTL.	total pressure in settling chamber, p_t, kPa
Q	dynamic pressure, q, kPa
RE*10**-6	Reynolds number ($\times 10^{-6}$) based on c_{AC} (Note: not based on c_r as in Ref. 9.4)
REDFR.	reduced frequency, $\omega\ c_{AC}/2V$ (Note: $k = (\omega c_r/2V) = 1.346 \times$ REDFR.)
s	model semi-span, s = 1.000 m
S	model surface, S = 0.2526 m^2
T-SETTL.	temperature in settling chamber, T_o, ^oC
α_o	amplitude of oscillatory wing incidence at LVDT position, deg. In aerodynamic coefficients, α_o in radians
η	relative spanwise co-ordinate, y/s

Note: Symbols not mentioned here conform to the notation in the General Review in the main body of the Compendium.

Tables 9.1 to 9.20

1. In the section concerning displacements relative to LVDT, "CALC." means that due to failing of the accelerometer the amplitude and phase values were interpolated or extrapolated.
2. In the section concerning the vibration mode, the values for "HEAVE AT X = .224 M (MM)" and "PITCH (DEG)" indicate absolute values of the sectional model displacements, the sections being considered as rigid. Comparison of the pitch value with "DALFA" gives an idea of the model oscillatory deformation.

TABLE 9.1

Measured coordinates of the LANN wing model

Root chord $\eta = 0$

Local chord = 360.60 mm

upper side				lower side					
ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c
0.00000	0.02072	0.67021	0.02644	0.00000	0.02072	0.01765	-0.00102	0.39998	-0.06824
0.00011	0.02465	0.70680	0.02166	0.00012	0.01631	0.01838	-0.00140	0.40512	-0.06832
0.00021	0.02525	0.75335	0.01526	0.00029	0.01543	0.01917	-0.00177	0.42387	-0.06843
0.00046	0.02606	0.79293	0.00954	0.00050	0.01476	0.01979	-0.00207	0.44041	-0.06839
0.00063	0.02663	0.83247	0.00361	0.00063	0.01434	0.02047	-0.00236	0.46039	-0.06795
0.00074	0.02683	0.85618	0.00000	0.00087	0.01371	0.02121	-0.00266	0.49747	-0.06709
0.00092	0.02722	0.88211	-0.00398	0.00099	0.01351	0.02205	-0.00310	0.53007	-0.06525
0.00120	0.02787	0.91717	-0.00939	0.00122	0.01298	0.02267	-0.00337	0.56550	-0.06251
0.00134	0.02795	0.95282	-0.01489	0.00135	0.01276	0.02335	-0.00368	0.60232	-0.05889
0.00204	0.02937	0.98323	-0.01955	0.00161	0.01228	0.02414	-0.00403	0.63587	-0.05477
0.00297	0.03089	1.00000	-0.02206	0.00170	0.01208	0.02467	-0.00423	0.67183	-0.04986
0.00361	0.03170			0.00194	0.01170	0.02645	-0.00499	0.70588	-0.04504
0.00404	0.03227			0.00216	0.01138	0.02834	-0.00578	0.74071	-0.03990
0.00500	0.03342			0.00237	0.01112	0.02999	-0.00646	0.77586	-0.03487
0.00609	0.03459			0.00247	0.01095	0.03192	-0.00722	0.81117	-0.03006
0.00673	0.03521			0.00282	0.01051	0.03351	-0.00785	0.84987	-0.02539
0.00753	0.03590			0.00311	0.00994	0.03541	-0.00859	0.86314	-0.02401
0.00858	0.03680			0.00334	0.00974	0.03709	-0.00918	0.88042	-0.02246
0.00952	0.03750			0.00363	0.00928	0.03890	-0.00985	0.89810	-0.02116
0.01150	0.03885			0.00382	0.00902	0.04059	-0.01045	0.91640	-0.02015
0.01231	0.04019			0.00402	0.00878	0.04235	-0.01107	0.93319	-0.01972
0.01708	0.04200			0.00425	0.00859	0.04608	-0.01243	0.95104	-0.01994
0.02166	0.04398			0.00459	0.00815	0.04943	-0.01356	0.98629	-0.02186
0.02477	0.04513			0.00499	0.00775	0.05294	-0.01472	0.98974	-0.02222
0.02819	0.04630			0.00533	0.00740	0.05646	-0.01586	0.99372	-0.02269
0.03240	0.04758			0.00565	0.00714	0.05999	-0.01698	0.99699	-0.02308
0.03530	0.04836			0.00602	0.00688	0.06344	-0.01803	1.00000	-0.02342
0.03914	0.04934			0.00642	0.00633	0.06697	-0.01909		
0.04283	0.05016			0.00678	0.00599	0.07052	-0.02017		
0.04627	0.05089			0.00710	0.00571	0.07775	-0.02222		
0.04935	0.05147			0.00740	0.00550	0.08485	-0.02422		
0.05640	0.05265			0.00776	0.00523	0.09168	-0.02605		
0.06372	0.05366			0.00814	0.00488	0.09894	-0.02796		
0.07053	0.05448			0.00852	0.00461	0.10599	-0.02977		
0.07834	0.05523			0.00885	0.00433	0.11285	-0.03149		
0.08503	0.05576			0.00916	0.00411	0.12029	-0.03332		
0.09867	0.05659			0.00953	0.00382	0.12722	-0.03498		
0.11279	0.05721			0.00995	0.00352	0.13426	-0.03663		
0.12695	0.05767			0.01059	0.00310	0.14121	-0.03821		
0.14162	0.05802			0.01090	0.00285	0.15856	-0.04203		
0.17966	0.05840			0.01131	0.00259	0.17722	-0.04582		
0.21579	0.05819			0.01167	0.00235	0.19374	-0.04889		
0.25344	0.05756			0.01207	0.00211	0.21247	-0.05205		
0.28613	0.05667			0.01243	0.00188	0.22897	-0.05459		
0.32399	0.05528			0.01278	0.00166	0.24773	-0.05718		
0.36076	0.05364			0.01310	0.00147	0.26472	-0.05932		
0.40032	0.05157			0.01351	0.00120	0.28495	-0.06156		
0.43068	0.04970			0.01385	0.00101	0.30013	-0.06301		
0.48496	0.04581			0.01412	0.00085	0.31759	-0.06440		
0.52839	0.04204			0.01486	0.00045	0.33513	-0.06557		
0.57015	0.03793			0.01568	-0.00001	0.35216	-0.06652		
0.60347	0.03443			0.01622	-0.00028	0.36988	-0.06734		
0.63598	0.03064			0.01694	-0.00066	0.38788	-0.06797		

TABLE 9.1 (cont'd)

Measured coordinates of the LANN wing model

Section 1 $\eta = 0.200$

Local chord = 317.65 mm

upper side				lower side					
ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c
0.00000	0.01699	0.67919	0.02904	0.00000	0.01699	0.02840	-0.00856	0.39985	-0.06681
0.00060	0.02144	0.71651	0.02431	0.00020	0.01375	0.02916	-0.00887	0.41363	-0.06691
0.00073	0.02187	0.75558	0.01910	0.00063	0.01203	0.03015	-0.00928	0.43448	-0.06681
0.00094	0.02238	0.79784	0.01312	0.00081	0.01159	0.03103	-0.00964	0.47547	-0.06595
0.00154	0.02393	0.83404	0.00774	0.00100	0.01107	0.03191	-0.00997	0.51461	-0.06411
0.00170	0.02431	0.87604	0.00126	0.00129	0.01032	0.03276	-0.01029	0.55696	-0.06081
0.00206	0.02506	0.91421	-0.00476	0.00146	0.01016	0.03380	-0.01070	0.59506	-0.05697
0.00231	0.02551	0.95548	-0.01130	0.00188	0.00908	0.03586	-0.01115	0.63517	-0.05188
0.00245	0.02556	0.99395	-0.01698	0.00207	0.00880	0.03775	-0.01135	0.67346	-0.04638
0.00257	0.02559	1.00000	-0.01787	0.00236	0.00832	0.03979	-0.01299	0.71408	-0.04033
0.00317	0.02663			0.00245	0.00816	0.04186	-0.01367	0.75530	-0.03401
0.00406	0.02806			0.00277	0.00772	0.04383	-0.01435	0.79383	-0.02838
0.00447	0.02843			0.00311	0.00720	0.04579	-0.01491	0.81346	-0.02576
0.00526	0.02947			0.00326	0.00704	0.04787	-0.01562	0.83359	-0.02322
0.00561	0.02963			0.00366	0.00666	0.04994	-0.01631	0.85343	-0.02096
0.00611	0.03006			0.00384	0.00664	0.05177	-0.01679	0.87345	-0.01899
0.00733	0.03163			0.00437	0.00573	0.05381	-0.01750	0.88165	-0.01830
0.00824	0.03244			0.00464	0.00544	0.05583	-0.01813	0.88980	-0.01770
0.00856	0.03274			0.00510	0.00488	0.05789	-0.01874	0.89764	-0.01713
0.00937	0.03350			0.00530	0.00472	0.05976	-0.01932	0.90535	-0.01664
0.00976	0.03372			0.00569	0.00429	0.06189	-0.01993	0.91338	-0.01634
0.01063	0.03446			0.00627	0.00366	0.06385	-0.02051	0.92139	-0.01606
0.01214	0.03551			0.00663	0.00332	0.06608	-0.02117	0.92966	-0.01586
0.01378	0.03642			0.00701	0.00292	0.06785	-0.02167	0.93738	-0.01578
0.01619	0.03789			0.00724	0.00271	0.06985	-0.02224	0.94538	-0.01579
0.01782	0.03849			0.00772	0.00228	0.07180	-0.02279	0.95337	-0.01587
0.01942	0.03945			0.00827	0.00180	0.07399	-0.02339	0.96145	-0.01603
0.02101	0.04025			0.00868	0.00151	0.07778	-0.02444	0.96959	-0.01632
0.02240	0.04084			0.00905	0.00118	0.08203	-0.02555	0.97739	-0.01671
0.02368	0.04137			0.00947	0.00089	0.08585	-0.02655	0.98557	-0.01730
0.02580	0.04214			0.00980	0.00068	0.09013	-0.02765	0.98940	-0.01764
0.02976	0.04344			0.01065	0.00001	0.09383	-0.02858	0.99343	-0.01800
0.03390	0.04467			0.01131	-0.00040	0.09799	-0.02959	0.99735	-0.01835
0.04184	0.04681			0.01212	-0.00095	0.10183	-0.03047	1.00000	-0.01858
0.04998	0.04865			0.01293	-0.00144	0.10613	-0.03153		
0.05812	0.05014			0.01376	-0.00190	0.11010	-0.03246		
0.06583	0.05130			0.01459	-0.00231	0.11376	-0.03331		
0.07393	0.05230			0.01539	-0.00282	0.12226	-0.03526		
0.09429	0.05413			0.01618	-0.00324	0.13003	-0.03698		
0.11535	0.05544			0.01696	-0.00359	0.13792	-0.03869		
0.15487	0.05697			0.01780	-0.00400	0.14591	-0.04037		
0.19378	0.05763			0.01882	-0.00448	0.15395	-0.04202		
0.23695	0.05765			0.01939	-0.00473	0.17359	-0.04583		
0.27537	0.05717			0.02019	-0.00507	0.19497	-0.04954		
0.31752	0.05613			0.02116	-0.00560	0.21414	-0.05250		
0.35529	0.05485			0.02197	-0.00595	0.23417	-0.05525		
0.39668	0.05306			0.02261	-0.00617	0.25386	-0.05771		
0.43402	0.05110			0.02340	-0.00645	0.27470	-0.06000		
0.47759	0.04838			0.02424	-0.00688	0.29386	-0.06177		
0.51703	0.04546			0.02496	-0.00720	0.31896	-0.06361		
0.55461	0.04228			0.02576	-0.00752	0.33451	-0.06453		
0.59686	0.03829			0.02675	-0.00789	0.35411	-0.06547		
0.63420	0.03434			0.02746	-0.00820	0.37371	-0.06622		

TABLE 9.1 (cont'd)

Measured coordinates of the LANN wing model

Section 2 $\eta = 0.325$

Local chord = 290.71 mm

upper side				lower side					
ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c
0.00000	0.01168	0.07153	0.04993	0.00000	0.01168	0.02818	-0.01118	0.77772	-0.02833
0.00015	0.01245	0.07602	0.05048	0.00015	0.01090	0.03010	-0.01191	0.80290	-0.02476
0.00033	0.01559	0.09870	0.05269	0.00045	0.00986	0.03250	-0.01275	0.82381	-0.02201
0.00045	0.01661	0.12119	0.05426	0.00065	0.00931	0.03456	-0.01348	0.84819	-0.01910
0.00064	0.01663	0.14165	0.05534	0.00101	0.00832	0.03673	-0.01428	0.86682	-0.01716
0.00090	0.01853	0.16391	0.05622	0.00124	0.00769	0.03896	-0.01513	0.88459	-0.01569
0.00122	0.01946	0.18573	0.05684	0.00176	0.00657	0.04118	-0.01589	0.90635	-0.01432
0.00146	0.01980	0.20796	0.05721	0.00216	0.00591	0.04329	-0.01659	0.92796	-0.01358
0.00197	0.02121	0.25206	0.05744	0.00231	0.00571	0.04552	-0.01732	0.93718	-0.01346
0.00202	0.02153	0.29941	0.05688	0.00259	0.00521	0.04777	-0.01802	0.94135	-0.01345
0.00213	0.02140	0.34086	0.05588	0.00293	0.00496	0.04996	-0.01868	0.95000	-0.01350
0.00266	0.02278	0.38489	0.05443	0.00328	0.00419	0.05220	-0.01935	0.95865	-0.01365
0.00296	0.02331	0.42814	0.05255	0.00353	0.00411	0.05420	-0.01996	0.96722	-0.01391
0.00318	0.02357	0.47169	0.05020	0.00385	0.00389	0.05884	-0.02129	0.97610	-0.01432
0.00353	0.02424	0.51395	0.04741	0.00412	0.00322	0.06334	-0.02254	0.98489	-0.01493
0.00389	0.02440	0.55782	0.04398	0.00440	0.00292	0.06762	-0.02373	0.99363	-0.01575
0.00425	0.02520	0.60544	0.03966	0.00469	0.00266	0.07167	-0.02480	0.99796	-0.01620
0.00446	0.02547	0.64628	0.03546	0.00488	0.00249	0.07627	-0.02603	1.00000	-0.01642
0.00477	0.02585	0.69276	0.03014	0.00524	0.00190	0.08053	-0.02711		
0.00525	0.02652	0.73249	0.02515	0.00570	0.00139	0.08538	-0.02831		
0.00562	0.02694	0.77591	0.01934	0.00601	0.00108	0.08926	-0.02925		
0.00593	0.02713	0.82161	0.01270	0.00626	0.00086	0.09365	-0.03030		
0.00654	0.02787	0.86295	0.00633	0.00662	0.00054	0.09791	-0.03129		
0.00695	0.02822	0.90637	-0.00059	0.00702	0.00012	0.10243	-0.03232		
0.00735	0.02882	0.95044	-0.00779	0.00751	-0.00052	0.11145	-0.03433		
0.00777	0.02922	0.99507	-0.01450	0.00794	-0.00073	0.11973	-0.03615		
0.00837	0.02975	1.00000	-0.01525	0.00834	-0.00105	0.12874	-0.03808		
0.00875	0.03002			0.00877	-0.00140	0.13769	-0.03992		
0.00951	0.03073			0.00920	-0.00172	0.14593	-0.04158		
0.00993	0.03108			0.00973	-0.00213	0.15476	-0.04328		
0.01034	0.03129			0.01055	-0.00271	0.16345	-0.04490		
0.01085	0.03173			0.01144	-0.00330	0.17234	-0.04651		
0.01148	0.03224			0.01190	-0.00359	0.18526	-0.04868		
0.01198	0.03256			0.01235	-0.00385	0.20704	-0.05201		
0.01281	0.03311			0.01281	-0.00412	0.22912	-0.05497		
0.01374	0.03362			0.01325	-0.00435	0.25090	-0.05757		
0.01459	0.03411			0.01362	-0.00449	0.27265	-0.05984		
0.01578	0.03486			0.01410	-0.00471	0.29472	-0.06175		
0.01659	0.03520			0.01446	-0.00499	0.31643	-0.06325		
0.01762	0.03582			0.01487	-0.00514	0.33870	-0.06443		
0.01843	0.03624			0.01582	-0.00564	0.36021	-0.06529		
0.01966	0.03686			0.01667	-0.00611	0.38236	-0.06591		
0.02233	0.03807			0.01758	-0.00654	0.39996	-0.06618		
0.02408	0.03874			0.01844	-0.00688	0.42134	-0.06618		
0.02707	0.03990			0.01924	-0.00737	0.42688	-0.06613		
0.03002	0.04092			0.02006	-0.00779	0.47369	-0.06501		
0.03407	0.04224			0.02103	-0.00825	0.51291	-0.06304		
0.03901	0.04371			0.02210	-0.00872	0.55791	-0.05931		
0.04321	0.04480			0.02300	-0.00910	0.60082	-0.05464		
0.04884	0.04611			0.02384	-0.00946	0.64583	-0.04851		
0.05477	0.04731			0.02537	-0.01008	0.68572	-0.04252		
0.06026	0.04829			0.02645	-0.01051	0.71566	-0.03793		
0.06702	0.04933			0.02718	-0.01080	0.75486	-0.03179		

TABLE 9.1 (cont'd)

Measured coordinates of the LANN wing model

Section 3 $\eta = 0.475$

Local chord = 258.06 mm

upper side				lower side					
ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c
0.00000	0.01001	0.02822	0.03617	0.00000	0.01001	0.04299	-0.02058	0.91418	-0.01005
0.00003	0.01043	0.03114	0.03717	0.00008	0.00569	0.04542	-0.02130	0.93438	-0.00963
0.00039	0.01308	0.03310	0.03784	0.00018	0.00515	0.04798	-0.02206	0.94849	-0.00974
0.00053	0.01281	0.03566	0.03868	0.00048	0.00394	0.05045	-0.02275	0.96149	-0.01006
0.00089	0.01466	0.03851	0.03957	0.00088	0.00305	0.05315	-0.02349	0.96965	-0.01042
0.00133	0.01589	0.04086	0.04025	0.00100	0.00282	0.05785	-0.02477	0.97750	-0.01089
0.00166	0.01658	0.04347	0.04095	0.00143	0.00203	0.06279	-0.02605	0.98324	-0.01133
0.00204	0.01741	0.04668	0.04176	0.00172	0.00142	0.06792	-0.02736	0.98728	-0.01169
0.00229	0.01784	0.04886	0.04227	0.00210	0.00083	0.07281	-0.02852	0.99289	-0.01224
0.00267	0.01855	0.05101	0.04276	0.00255	0.00014	0.07745	-0.02963	0.99588	-0.01255
0.00313	0.01933	0.05309	0.04321	0.00278	-0.00002	0.08323	-0.03098	1.00000	-0.01298
0.00338	0.01943	0.05520	0.04365	0.00328	-0.00078	0.08734	-0.03188		
0.00384	0.02013	0.05646	0.04392	0.00345	-0.00090	0.09256	-0.03303		
0.00438	0.02105	0.05776	0.04416	0.00391	-0.00150	0.09715	-0.03402		
0.00476	0.02150	0.06279	0.04512	0.00429	-0.00192	0.10215	-0.03507		
0.00494	0.02164	0.06762	0.04593	0.00469	-0.00237	0.10725	-0.03613		
0.00533	0.02207	0.07253	0.04670	0.00525	-0.00284	0.11690	-0.03807		
0.00563	0.02248	0.07749	0.04739	0.00560	-0.00326	0.12674	-0.03999		
0.00619	0.02312	0.08732	0.04861	0.00615	-0.00386	0.13650	-0.04185		
0.00657	0.02339	0.09770	0.04975	0.00644	-0.00412	0.14639	-0.04366		
0.00698	0.02392	0.10686	0.05065	0.00652	-0.00404	0.15625	-0.04541		
0.00723	0.02407	0.11705	0.05152	0.00716	-0.00483	0.16622	-0.04709		
0.00766	0.02469	0.12658	0.05226	0.00770	-0.00531	0.17611	-0.04866		
0.00821	0.02522	0.15216	0.05387	0.00815	-0.00563	0.18594	-0.05015		
0.00853	0.02552	0.17651	0.05499	0.00861	-0.00600	0.19641	-0.05163		
0.00901	0.02593	0.20061	0.05585	0.00907	-0.00635	0.20584	-0.05289		
0.00953	0.02638	0.22548	0.05640	0.00963	-0.00675	0.21521	-0.05407		
0.00964	0.02644	0.25834	0.05683	0.01011	-0.00702	0.22575	-0.05533		
0.01004	0.02672	0.31258	0.05679	0.01069	-0.00741	0.25009	-0.05794		
0.01068	0.02730	0.37718	0.05573	0.01110	-0.00769	0.27463	-0.06020		
0.01113	0.02761	0.42746	0.05418	0.01153	-0.00794	0.29886	-0.06197		
0.01195	0.02819	0.47585	0.05201	0.01249	-0.00848	0.32343	-0.06334		
0.01251	0.02858	0.52187	0.04929	0.01355	-0.00901	0.34891	-0.06433		
0.01324	0.02908	0.57090	0.04580	0.01456	-0.00951	0.37271	-0.06495		
0.01381	0.02947	0.62482	0.04129	0.01540	-0.00990	0.39978	-0.06522		
0.01442	0.02980	0.67201	0.03658	0.01642	-0.01040	0.42228	-0.06507		
0.01492	0.03007	0.71828	0.03132	0.01739	-0.01088	0.44655	-0.06452		
0.01546	0.03040	0.77026	0.02474	0.01841	-0.01135	0.47114	-0.06361		
0.01601	0.03076	0.81917	0.01771	0.01950	-0.01187	0.49612	-0.06232		
0.01630	0.03085	0.86493	0.01053	0.02041	-0.01230	0.52041	-0.06061		
0.01687	0.03119	0.91586	0.00224	0.02144	-0.01282	0.55624	-0.05725		
0.01745	0.03155	0.92894	0.00000	0.02235	-0.01321	0.58729	-0.05374		
0.01800	0.03182	0.96489	-0.00594	0.02342	-0.01368	0.62017	-0.04935		
0.01844	0.03204	1.00000	-0.01165	0.02434	-0.01405	0.65092	-0.04474		
0.01960	0.03256			0.02537	-0.01443	0.68218	-0.03987		
0.02036	0.03292			0.02659	-0.01487	0.71732	-0.03435		
0.02129	0.03341			0.02732	-0.01517	0.75083	-0.02898		
0.02227	0.03385			0.02843	-0.01556	0.76832	-0.02599		
0.02328	0.03426			0.03079	-0.01641	0.79117	-0.02259		
0.02428	0.03469			0.03318	-0.01719	0.81581	-0.01915		
0.02553	0.03518			0.03561	-0.01809	0.84046	-0.01603		
0.02637	0.03552			0.03810	-0.01904	0.86483	-0.01340		
0.02731	0.03587			0.04044	-0.01979	0.88946	-0.01136		

TABLE 9.1 (cont'd)

Measured coordinates of the LANN wing model

Section 4 η = 0.650

Local chord = 220.29 mm

upper side				lower side					
ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c
0.00000	0.00273	0.05984	0.04008	0.00000	0.00273	0.07031	-0.03173	0.98140	-0.00322
0.00009	0.00348	0.06325	0.04078	0.00020	0.00197	0.07305	-0.03232	0.98692	-0.00375
0.00031	0.00514	0.06674	0.04145	0.00053	-0.00086	0.07589	-0.03291	0.99282	-0.00445
0.00055	0.00685	0.07026	0.04213	0.00081	-0.00176	0.07893	-0.03353	0.99834	-0.00513
0.00083	0.00769	0.07624	0.04317	0.00134	-0.00315	0.08170	-0.03408	1.00000	-0.00533
0.00121	0.00891	0.08170	0.04409	0.00156	-0.00355	0.08744	-0.03521		
0.00145	0.00957	0.08759	0.04500	0.00191	-0.00417	0.09334	-0.03634		
0.00166	0.01009	0.09378	0.04589	0.00225	-0.00482	0.09912	-0.03739		
0.00203	0.01094	0.09924	0.04663	0.00261	-0.00532	0.10475	-0.03843		
0.00231	0.01137	0.10515	0.04739	0.00295	-0.00567	0.11053	-0.03946		
0.00263	0.01207	0.11076	0.04808	0.00330	-0.00609	0.11652	-0.04049		
0.00310	0.01286	0.12208	0.04935	0.00371	-0.00657	0.12232	-0.04147		
0.00348	0.01346	0.13399	0.05055	0.00424	-0.00713	0.12819	-0.04245		
0.00401	0.01414	0.14592	0.05161	0.00447	-0.00729	0.13368	-0.04332		
0.00452	0.01482	0.15730	0.05253	0.00491	-0.00784	0.14002	-0.04433		
0.00493	0.01509	0.16856	0.05335	0.00541	-0.00844	0.15123	-0.04605		
0.00555	0.01562	0.17965	0.05404	0.00587	-0.00884	0.16250	-0.04770		
0.00615	0.01649	0.19136	0.05474	0.00628	-0.00913	0.17445	-0.04934		
0.00658	0.01710	0.22579	0.05632	0.00668	-0.00954	0.18573	-0.05078		
0.00730	0.01814	0.26734	0.05763	0.00721	-0.00999	0.19731	-0.05216		
0.00787	0.01871	0.29128	0.05812	0.00766	-0.01041	0.20897	-0.05344		
0.00831	0.01913	0.31685	0.05835	0.00821	-0.01100	0.22014	-0.05457		
0.00898	0.01975	0.34111	0.05846	0.00873	-0.01140	0.22577	-0.05514		
0.00967	0.02035	0.37006	0.05839	0.00917	-0.01174	0.25473	-0.05759		
0.01037	0.02093	0.39920	0.05810	0.00985	-0.01222	0.28349	-0.05953		
0.01099	0.02143	0.42853	0.05758	0.01035	-0.01254	0.31243	-0.06091		
0.01154	0.02185	0.45701	0.05684	0.01085	-0.01286	0.34120	-0.06178		
0.01220	0.02236	0.48610	0.05585	0.01146	-0.01320	0.37028	-0.06219		
0.01282	0.02281	0.51407	0.05462	0.01231	-0.01370	0.39992	-0.06215		
0.01342	0.02323	0.54285	0.05319	0.01301	-0.01404	0.42761	-0.06157		
0.01430	0.02381	0.57203	0.05143	0.01363	-0.01431	0.45643	-0.06045		
0.01538	0.02439	0.60050	0.04954	0.01478	-0.01493	0.48548	-0.05878		
0.01661	0.02512	0.62935	0.04740	0.01589	-0.01547	0.54662	-0.05319		
0.01765	0.02568	0.65815	0.04501	0.01719	-0.01605	0.57714	-0.04938		
0.01886	0.02637	0.68697	0.04231	0.01853	-0.01664	0.60718	-0.04499		
0.01997	0.02697	0.71647	0.03931	0.01958	-0.01698	0.62797	-0.04172		
0.02116	0.02759	0.74524	0.03619	0.02063	-0.01733	0.65825	-0.03682		
0.02239	0.02821	0.75069	0.03557	0.02185	-0.01801	0.68714	-0.03205		
0.02343	0.02877	0.75448	0.03417	0.02298	-0.01848	0.71652	-0.02713		
0.02458	0.02924	0.77376	0.03219	0.02417	-0.01894	0.74475	-0.02232		
0.02573	0.02979	0.80270	0.02816	0.02695	-0.01995	0.75095	-0.02122		
0.02748	0.03050	0.83148	0.02390	0.02982	-0.02090	0.75330	-0.02045		
0.02926	0.03118	0.86045	0.01924	0.03262	-0.02183	0.77360	-0.01746		
0.03093	0.03185	0.89056	0.01424	0.03830	-0.02373	0.80241	-0.01302		
0.03264	0.03243	0.91853	0.00970	0.04146	-0.02470	0.83136	-0.00911		
0.03438	0.03304	0.92933	0.00794	0.04363	-0.02552	0.86016	-0.00582		
0.03577	0.03354	0.94083	0.00606	0.04716	-0.02629	0.88897	-0.00326		
0.03898	0.03465	0.95230	0.00420	0.05010	-0.02772	0.91192	-0.00193		
0.04248	0.03574	0.96369	0.00232	0.05586	-0.02846	0.92379	-0.00150		
0.04607	0.03671	0.97624	0.00015	0.05901	-0.02919	0.93540	-0.00142		
0.04942	0.03767	0.98681	-0.00157	0.06159	-0.02978	0.94860	-0.00152		
0.05290	0.03852	1.00000	-0.00382	0.06473	-0.03051	0.95854	-0.00178		
0.05620	0.03929			0.06734	-0.03111	0.96984	-0.00234		

TABLE 9.1 (cont'd)

Measured coordinates of the LANN wing model

Section 5 $\eta = 0.825$

Local chord = 182.35 mm

upper side						lower side			
ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c
0.00000	-0.00585	0.05110	0.03178	0.78232	0.04357	0.00000	-0.00585	0.07537	-0.03829
0.00010	-0.00403	0.05241	0.03217	0.81725	0.03880	0.00052	-0.01049	0.07894	-0.03885
0.00077	-0.00120	0.05376	0.03253	0.85259	0.03329	0.00111	-0.01185	0.08629	-0.03998
0.00145	0.00132	0.05519	0.03293	0.88690	0.02776	0.00182	-0.01293	0.09264	-0.04092
0.00164	0.00180	0.05656	0.03322	0.92244	0.02159	0.00259	-0.01386	0.09969	-0.04191
0.00244	0.00341	0.05790	0.03357	0.94248	0.01812	0.00312	-0.01447	0.10653	-0.04286
0.00293	0.00435	0.06131	0.03441	0.95669	0.01559	0.00366	-0.01515	0.11373	-0.04381
0.00334	0.00486	0.06492	0.03530	0.97038	0.01316	0.00419	-0.01573	0.12071	-0.04475
0.00404	0.00584	0.06834	0.03611	0.98427	0.01068	0.00462	-0.01620	0.12793	-0.04563
0.00461	0.00655	0.07040	0.03657	0.99812	0.00818	0.00554	-0.01717	0.14173	-0.04729
0.00518	0.00737	0.07332	0.03721	1.00000	0.00780	0.00609	-0.01765	0.15537	-0.04884
0.00564	0.00790	0.07605	0.03781			0.00680	-0.01821	0.17034	-0.05040
0.00606	0.00846	0.07883	0.03838			0.00745	-0.01879	0.18356	-0.05165
0.00655	0.00900	0.08218	0.03906			0.00809	-0.01931	0.19040	-0.05222
0.00720	0.00977	0.08569	0.03973			0.00896	-0.01990	0.22535	-0.05480
0.00770	0.01027	0.08917	0.04038			0.00944	-0.02010	0.26004	-0.05671
0.00833	0.01095	0.09274	0.04103			0.01017	-0.02074	0.29491	-0.05799
0.00905	0.01166	0.09612	0.04160			0.01109	-0.02130	0.32967	-0.05863
0.00983	0.01233	0.09960	0.04221			0.01113	-0.02131	0.36494	-0.05871
0.01029	0.01257	0.10313	0.04282			0.01170	-0.02151	0.39978	-0.05814
0.01114	0.01358	0.10655	0.04334			0.01230	-0.02190	0.43449	-0.05668
0.01176	0.01401	0.11013	0.04389			0.01279	-0.02213	0.46866	-0.05452
0.01259	0.01467	0.11352	0.04440			0.01330	-0.02247	0.50425	-0.05151
0.01336	0.01520	0.12094	0.04548			0.01397	-0.02282	0.53950	-0.04744
0.01404	0.01569	0.12859	0.04653			0.01478	-0.02323	0.57338	-0.04273
0.01459	0.01613	0.13461	0.04729			0.01541	-0.02347	0.60830	-0.03707
0.01530	0.01658	0.14151	0.04817			0.01624	-0.02390	0.64273	-0.03096
0.01619	0.01718	0.14839	0.04897			0.01752	-0.02446	0.67786	-0.02450
0.01683	0.01759	0.15530	0.04976			0.01915	-0.02516	0.71249	-0.01823
0.01741	0.01796	0.16249	0.05053			0.02024	-0.02559	0.74031	-0.01315
0.01907	0.01893	0.16928	0.05122			0.02176	-0.02617	0.76950	-0.00820
0.02030	0.01963	0.18339	0.05257			0.02300	-0.02666	0.79644	-0.00375
0.02184	0.02046	0.19738	0.05377			0.02439	-0.02713	0.82396	0.00028
0.02297	0.02108	0.21166	0.05490			0.02581	-0.02757	0.85175	0.00382
0.02434	0.02175	0.22545	0.05588			0.02733	-0.02798	0.88078	0.00660
0.02604	0.02257	0.23917	0.05677			0.02871	-0.02833	0.89456	0.00759
0.02730	0.02311	0.25334	0.05760			0.03014	-0.02875	0.90875	0.00839
0.02864	0.02375	0.26691	0.05830			0.03131	-0.02920	0.92202	0.00890
0.03030	0.02445	0.28101	0.05897			0.03275	-0.02957	0.93570	0.00905
0.03144	0.02492	0.29494	0.05955			0.03440	-0.02981	0.94944	0.00898
0.03295	0.02552	0.33001	0.06074			0.03587	-0.03042	0.96351	0.00862
0.03427	0.02606	0.36483	0.06152			0.03719	-0.03081	0.97755	0.00787
0.03552	0.02655	0.39923	0.06198			0.03872	-0.03119	0.99122	0.00670
0.03697	0.02711	0.43396	0.06213			0.04044	-0.03162	0.99816	0.00602
0.03829	0.02753	0.46903	0.06200			0.04399	-0.03237	1.00000	0.00589
0.03981	0.02810	0.50392	0.06153			0.04736	-0.03312		
0.04135	0.02871	0.53861	0.06067			0.05094	-0.03390		
0.04256	0.02913	0.57369	0.05941			0.05437	-0.03453		
0.04405	0.02962	0.60815	0.05790			0.05790	-0.03523		
0.04546	0.03008	0.64295	0.05601			0.06132	-0.03588		
0.04686	0.03051	0.67770	0.05377			0.06477	-0.03648		
0.04819	0.03088	0.71390	0.05089			0.06841	-0.03711		
0.04959	0.03133	0.74734	0.04771			0.07210	-0.03773		

TABLE 9.1 (cont'd)

Measured coordinates of the LANN wing model

Section 6 $\eta = 0.950$

Local chord = 155.34 mm

upper side				lower side			
ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c
0.00000	-0.01515	0.09807	0.03590	0.00000	-0.01514	0.07407	-0.04529
0.00047	-0.01261	0.10630	0.03754	0.00043	-0.01753	0.08148	-0.04616
0.00119	-0.01062	0.11448	0.03916	0.00129	-0.01992	0.08979	-0.04706
0.00137	-0.01063	0.12254	0.04056	0.00186	-0.02119	0.09808	-0.04789
0.00182	-0.00842	0.13062	0.04195	0.00244	-0.02219	0.10679	-0.04873
0.00227	-0.00733	0.13895	0.04333	0.00298	-0.02312	0.11431	-0.04940
0.00280	-0.00640	0.14711	0.04455	0.00371	-0.02405	0.12252	-0.05012
0.00319	-0.00561	0.15598	0.04586	0.00425	-0.02463	0.13075	-0.05079
0.00397	-0.00523	0.16342	0.04688	0.00476	-0.02520	0.14900	-0.05218
0.00455	-0.00368	0.17155	0.04799	0.00531	-0.02570	0.16496	-0.05329
0.00525	-0.00270	0.18843	0.05003	0.00572	-0.02602	0.17939	-0.05421
0.00581	-0.00204	0.20429	0.05183	0.00628	-0.02651	0.19246	-0.05491
0.00636	-0.00180	0.22084	0.05355	0.00697	-0.02709	0.20647	-0.05558
0.00697	-0.00146	0.23699	0.05507	0.00764	-0.02757	0.22050	-0.05615
0.00788	-0.00049	0.25344	0.05651	0.00824	-0.02794	0.25320	-0.05710
0.00865	0.00008	0.27063	0.05787	0.00894	-0.02842	0.28619	-0.05757
0.00924	0.00155	0.28632	0.05898	0.00961	-0.02888	0.31882	-0.05764
0.01011	0.00257	0.30307	0.06009	0.01045	-0.02947	0.35174	-0.05733
0.01073	0.00319	0.31915	0.06103	0.01125	-0.02991	0.38459	-0.05640
0.01140	0.00383	0.33545	0.06191	0.01210	-0.03041	0.39957	-0.05578
0.01196	0.00427	0.36818	0.06345	0.01277	-0.03072	0.41675	-0.05488
0.01255	0.00481	0.40049	0.06462	0.01342	-0.03092	0.45809	-0.05201
0.01315	0.00527	0.43374	0.06556	0.01423	-0.03153	0.49868	-0.04809
0.01392	0.00590	0.46591	0.06616	0.01504	-0.03190	0.53977	-0.04268
0.01457	0.00640	0.49876	0.06647	0.01602	-0.03234	0.58603	-0.03499
0.01546	0.00703	0.53183	0.06647	0.01679	-0.03267	0.61996	-0.02860
0.01627	0.00747	0.54828	0.06641	0.01766	-0.03305	0.66283	-0.02024
0.01796	0.00833	0.56469	0.06629	0.01833	-0.03336	0.70479	-0.01187
0.01937	0.00950	0.58054	0.06608	0.01897	-0.03355	0.74429	-0.00427
0.02099	0.01055	0.61373	0.06534	0.01979	-0.03380	0.77654	0.00232
0.02264	0.01153	0.64583	0.06428	0.02075	-0.03403	0.80921	0.00755
0.02447	0.01250	0.67920	0.06273	0.02176	-0.03404	0.84198	0.01200
0.02614	0.01351	0.71190	0.06073	0.02304	-0.03400	0.87473	0.01540
0.02766	0.01431	0.74468	0.05815	0.02400	-0.03498	0.90765	0.01751
0.02916	0.01487	0.77690	0.05483	0.02464	-0.03558	0.92372	0.01805
0.03101	0.01585	0.81072	0.05054	0.02556	-0.03604	0.93217	0.01815
0.03276	0.01654	0.82703	0.04810	0.02747	-0.03674	0.94004	0.01815
0.03425	0.01726	0.84255	0.04567	0.02938	-0.03731	0.94815	0.01808
0.03625	0.01814	0.85886	0.04294	0.03131	-0.03787	0.95695	0.01794
0.03751	0.01868	0.87595	0.04009	0.03259	-0.03823	0.96468	0.01766
0.03930	0.01942	0.89123	0.03749	0.03429	-0.03869	0.97271	0.01723
0.04094	0.02012	0.90790	0.03461	0.03594	-0.03906	0.98126	0.01665
0.04480	0.02156	0.92452	0.03165	0.03759	-0.03960	0.98968	0.01593
0.04912	0.02308	0.94028	0.02880	0.03942	-0.04005	1.00000	0.01498
0.05293	0.02434	0.95695	0.02568	0.04103	-0.04032		
0.05723	0.02570	0.96505	0.02422	0.04399	-0.04081		
0.06127	0.02692	0.97362	0.02265	0.04745	-0.04153		
0.06520	0.02787	0.98130	0.02125	0.05048	-0.04197		
0.06937	0.02911	0.98978	0.01968	0.05389	-0.04253		
0.07369	0.03031	0.99756	0.01816	0.05730	-0.04304		
0.08157	0.03224	1.00000	0.01762	0.06114	-0.04359		
0.08564	0.03329			0.06532	-0.04417		
0.08975	0.03420			0.06949	-0.04474		

TABLE 9.1 (cont'd)

Measured coordinates of the LANN wing model

Tip section $\eta = 1.0$

Local chord = 144.45 mm

upper side				lower side			
ξ	-z/c	ξ	-z/c	ξ	-z/c	ξ	-z/c
0.00000	-0.02163	0.09960	0.03237	0.00000	-0.02163	0.17946	-0.05566
0.00070	-0.01802	0.10853	0.03436	0.00051	-0.02379	0.19833	-0.05634
0.00135	-0.01621	0.11739	0.03649	0.00125	-0.02641	0.22271	-0.05696
0.00165	-0.01532	0.12643	0.03805	0.00186	-0.02770	0.26678	-0.05745
0.00229	-0.01400	0.13480	0.03962	0.00250	-0.02879	0.31064	-0.05729
0.00260	-0.01328	0.14416	0.04125	0.00299	-0.02954	0.35566	-0.05622
0.00320	-0.01213	0.15251	0.04266	0.00357	-0.03023	0.39981	-0.05416
0.00371	-0.01103	0.16164	0.04414	0.00426	-0.03097	0.44253	-0.05117
0.00459	-0.00958	0.17015	0.04544	0.00487	-0.03157	0.48658	-0.04674
0.00503	-0.00886	0.17977	0.04681	0.00535	-0.03199	0.53111	-0.04080
0.00594	-0.00747	0.19635	0.04904	0.00596	-0.03236	0.57495	-0.03341
0.00640	-0.00693	0.21404	0.05124	0.00623	-0.03253	0.61844	-0.02495
0.00760	-0.00543	0.23169	0.05323	0.00681	-0.03296	0.66244	-0.01602
0.00818	-0.00501	0.25012	0.05515	0.00770	-0.03376	0.70646	-0.00726
0.00913	-0.00373	0.26711	0.05676	0.00825	-0.03417	0.71354	-0.00563
0.01002	-0.00278	0.28452	0.05826	0.00883	-0.03454	0.75065	0.00130
0.01092	-0.00185	0.30231	0.05961	0.00927	-0.03482	0.79454	0.00909
0.01168	-0.00155	0.31068	0.06024	0.00995	-0.03517	0.83830	0.01562
0.01270	-0.00037	0.35558	0.06311	0.01062	-0.03552	0.88279	0.02031
0.01340	0.00026	0.39854	0.06522	0.01124	-0.03593	0.89174	0.02094
0.01474	0.00135	0.44252	0.06689	0.01229	-0.03646	0.90395	0.02161
0.01533	0.00172	0.48646	0.06796	0.01308	-0.03682	0.91765	0.02209
0.01655	0.00274	0.53040	0.06856	0.01389	-0.03718	0.92646	0.02224
0.01709	0.00317	0.56573	0.06865	0.01451	-0.03746	0.93516	0.02226
0.01815	0.00389	0.57442	0.06862	0.01512	-0.03770	0.94378	0.02223
0.01908	0.00440	0.61894	0.06823	0.01579	-0.03797	0.94814	0.02217
0.02012	0.00489	0.66303	0.06700	0.01657	-0.03832	0.95340	0.02164E
0.02129	0.00571	0.70781	0.06487	0.01722	-0.03857	0.96147	0.02142E
0.02228	0.00642	0.75032	0.06184	0.01803	-0.03886	0.97054	0.02099E
0.02395	0.00728	0.79431	0.05717	0.01894	-0.03920	0.97893	0.02043E
0.02585	0.00830	0.81199	0.05483	0.01975	-0.03946	0.98776	0.01973E
0.02761	0.00920	0.82983	0.05221	0.02045	-0.03959	0.99650	0.01895E
0.02931	0.01002	0.84958	0.04906	0.02163	-0.03990	1.00000	0.01861E
0.03088	0.01064	0.86460	0.04658	0.02237	-0.04008		
0.03299	0.01171	0.88213	0.04352	0.02469	-0.04071		
0.03499	0.01261	0.90133	0.04004	0.02611	-0.04108		
0.03636	0.01310	0.91941	0.03673	0.02773	-0.04150		
0.03839	0.01400	0.93587	0.03367	0.02942	-0.04192		
0.04036	0.01493	0.95301	0.03050E	0.03155	-0.04240		
0.04263	0.01581	0.97060	0.02725E	0.03324	-0.04279		
0.04394	0.01635	0.98795	0.02402E	0.03814	-0.04379		
0.04565	0.01706	1.00000	0.02155E	0.04233	-0.04451		
0.04727	0.01741			0.04692	-0.04525		
0.05121	0.01880			0.05128	-0.04586		
0.05581	0.02042			0.05601	-0.04648		
0.06016	0.02189			0.06477	-0.04755		
0.06487	0.02335			0.07419	-0.04857		
0.06895	0.02455			0.08227	-0.04938		
0.07342	0.02581			0.09087	-0.05014		
0.07830	0.02715			0.10938	-0.05161		
0.08219	0.02817			0.12653	-0.05283		
0.08660	0.02928			0.14417	-0.05392		
0.09111	0.03037			0.16221	-0.05487		

Note: "E" denotes "extrapolated"

TABLE 9.2

Location of the 212 pressure orifices (see also Fig. 9.6)

section:	1 (η = .200)		2 (η = .325)		3 (η = .475)		4 (η = .650)		5 (η = .825)		6 (η = .950)	
% c	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower
.0	o		o		o		o		o		o	
.5	o	o	o	o	o	o	o	o	o	o		o
1.5	x	x	x	x	x	x	x	x	x		x	
3.0	x	x	x	x	x	x	x	x	x			
5.0	x	x	x	x	x	x	x		x		x	
7.5	o	o	o	o	o	o	o		o		o	x
10.0	x	x	x	x	x	x			x	x	x	
15.0	x	x	x	x	x		x	x	x		x	x
20.0	x	x	x	x	x	x	x	x	x	x	x	
25.0	x	o	x	o	x	o	x	o	x	o	x	x
30.0	x	x	x	x					x		x	x
35.0	x		x		x		x		x		x	
40.0	x	x	x	x	x		x	x	x		x	x
45.0	x		x		x		x		x		x	
50.0	x	x	x	x	x	x	x	x	x	x	x	x
55.0	x		x		x		x		x		x	
60.0	x	x	x	x	x	x	x	x	x		x	
65.0	x		x		x		x		x		x	
70.0	x	x	x	x	x	x	x	x	x		x	
75.0	x		x		x		x		x		x	
80.0	x	x	x	x	x	x	x	x	x	x	x	x
85.0	o		o		o		o		o		o	
90.0	x	x	x	x	x	x	x	x	x	x	x	x
95.0	o		o		o		o		o		o	

(o indicates inner diameter tube : 1.07 mm)
(x indicates inner diameter tube : 1.60 mm)
all orifices at model surface inner diameter : 0.79 mm

TABLE 9.3

Location of the 22 pressure transducers (see also Fig. 9.6)

section:	η = .189	η = .4625	η = .639	η = .814
% c				
5.0	x	x	x	x
10.0		x	x	
20.0		x	x	
30.0				
40.0		x	x	
50.0		x	x	
60.0		x	x	
70.0	x	x	x	x
80.0		x	x	
90.0		x	x	

TABLE 9.4

Location of the 12 accelerometers (x in mm; see also Fig. 9.6)

section:	η = .100	η = .420	η = .700	η = .920
number	x = 73.7 (6.4 % c) 1	x = 236.4 (6.6 % c) 4	x = 376.2 (5.7 % c) 7	x = 492.2 (8.3 % c) 10
number	x = 175.8 (36.5 % c) 2	x = 325.7 (39.7 % c) 5	x = 447.2 (39.6 % c) 8	x = 542.3 (39.3 % c) 11
number	x = 300.3 (73.2 % c) 3	x = 414.2 (72.5 % c) 6	x = 512.9 (71.0 % c) 9	x = 593.1 (70.7 % c) 12

Note: Asterisks mean inoperative

TABLE 9.5

Steady test programme for LANN model (Run numbers)

α_m \ M	0.62	0.72	0.77	0.82	0.87	0.95
-0.4	16	27	46	67	88	97
0.35	17			68		
0.60*)	15/19	28	47	69	89	98
0.85	18			70		
1.60	20	29	48	71	90	99
2.00	183			218		
2.35	235	238	240	132		155
2.50				219		
2.60*)	234	109	121	222/133		154
2.75				220	242	245
2.85	236	237	241	134		156
2.90				231		230
3.00*)	184			221	168	246
3.25				223	244	247
3.50				224		
3.60	104/232	110	122	135		157
4.00				225	169	248
4.50				226		
4.75			201	205		
5.00*)	185	193	202	206		228
5.25			203	207		
5.50				227		
6.00	186	194	204	208		229

*) Steady incidences for which unsteady measurements were performed as well

TABLE 9.6

Steady perturbation test results for LANN model to complete the unsteady programme (Run numbers)

α_o		0.25	0.50	0.75	1.00
α_m	M				
0.6	.62	260			261
	.72				262
	.77				263
	.82	264			265
	.87				266
	.95				267
2.6	.62	268			269
	.72	270			271
	.77	272			273
	.82	274			275
3.0	0.72				
	0.77				
	0.82	276	277		278
	0.87	279			
	0.95	280			
5.0	0.62				
	0.72				
	0.82	281	282		283

Note: Data are included in this Data Set for underlined run numbers

TABLE 9.7

Steady perturbations test results for LANN model to show the influence of α_m (Run numbers)

α_o		0.25	1.00
α_m	M		
1.60	.62		284
	.72		285
	.77		286
	.82		287
	.95		288
2.60	.95	289	290
2.75	.82	291	
3.25	.82	292	
3.50	.82		293
4.00	.82		294
	.95		295
4.50	.82		296
4.75	.82	297	
5.00	.77	300	
	.95		298
5.25	.82	299	

TABLE 9.8

Unsteady test programme for LANN model (Run numbers)

f		12	24	36	48	60	72
α_o		1.0	0.25	0.25	0.25	0.25	.025
α_m	M						
0.6	0.62	36	129/22	23	24	25	26
	0.72		30		31	32	33
	0.77	117	118	119	120	65	66
	0.82	83	73	77	85	86	87
	0.87	91	92	93	94	95	96
	0.95		100		101	102	103
2.6	0.62		105		106	107	108
	0.72	111	112	113	114	115	116
	0.77	123	124	125	126		128
	0.82	139	143	150	151	152	153
3.0	0.72		165				
	0.77		166				
	0.82		167				
	0.87		170		171	172	173
	0.95	250	175	179	180	181	182
5.0	0.62	187	188	189	190	191	192
	0.72	195	196	197	198	199	200
	0.82	211	212	214	215	216	217

Note: Data are included in this Data Set for underlined run numbers

TABLE 9.9

Test programme for amplitude variation and higher harmonics for LANN model (Run numbers)

M	α_m	f	α_o / harm	0.125	0.25	0.5	1.0
0.62	0.6	12	1	34	21	35	36
		24	1	37	22/39/129	42	
		24	2		40/130	43	
		24	3		41/131	44	
		36	1	45	23		
0.82	0.6	12	1		72	82	83
		24	1	78	73	79	
		24	2		74	80	
		24	3		75	81	
		36	1	76	77		
0.82	2.6	12	1	136	137	138	139
		24	1	140	143	146	
		24	2	141	144	147	
		24	3	142	145	148	
		36	1	149	150		
0.95	2.6	12	1		161	162	163
0.95	3.0	24	1		175	178	
		24	2		176		
		24	3		177		
0.82	5.0	12	1		209	210	211
		24	1		212	213	

Note: Data are included in this Data Set for underlined run numbers

Table 9.10

CASES FOR WHICH DATA ARE INCLUDED IN THIS DATA SET

(Note: These differ from the cases of Ref. 9.4; Case 5 is now the central transonic case.
Those marked * are priority cases.)

Case	M	α_m (deg)	α_o (deg)	f (Hz)	REDFR= $\omega c_{AC}/2V$	k= $\omega c_r/2V$	Type of flow	Unsteady & Steady		Steady Perturbation	
								Run N°	Table N°	Run N°	Table N°
1	0.62	0.6	0.25	24	0.099	0.133	subsonic	22	9.11	260	9.21
2*	0.77	0.6	0.25	24	0.080	0.108	transonic	118	9.12	–	–
3*	0.77	2.6	0.25	24	0.080	0.108	attached	124	9.13	272	9.22
4*	0.82	0.6	0.25	12	0.038	0.051		72	9.14	264	9.23
5*	0.82	0.6	0.25	24	0.076	0.102		73,74,75	9.15 a,b,c	264	9.23
6	0.82	0.6	0.5	12	0.038	0.051		82	9.16	–	–
7	0.82	0.6	0.5	24	0.076	0.102		79	9.17	–	–
8	0.82	0.6	0.25	48	0.151	0.203		85	9.18	264	9.23
9	0.82	2.6	0.25	24	0.075	0.103	partly	143,144,145	9.19 a,b,c	274	9.24
10	0.87	0.6	0.25	24	0.071	0.096	attached	92	9.20	–	–

*** LANN *** RUN 22 *** TABLE 9.11

TEST CONDITIONS			NORM. COEFF. Cz RE	NORM. COEFF. Czi IM	MOM. COEFF. Cm RE	MOM. COEFF. Cmi IM	DISPLACEMENTS REL.TO LVDT AMPL.(-)	DISPLACEMENTS REL.TO LVDT PHASE (DEG)	**Y/(B/2)	VIBRATION MODE HEAVE AT X=.224 M (MM)	VIBRATION MODE PITCH (DEG)
RUNNR.	= 22		SECT.1	.260 1.253	-.053 .015	-.017 .083	LVDT	1.00 0.00	** .000		
			SECT.2	.292 1.362	-.103 .020	-.034 .068	CALC. 1	1.02 1.65	** .100		
ALFA	= .59 (DEG)		SECT.3	.330 1.478	.096 .030	-.053 .059	ACC. 2	.26 2.34	** .100	.05	.23
MACH	= .621		SECT.4	.331 1.661	.248 .043	-.058 .020	ACC. 3	.67 -178.94	** .100		
RE*10**-6=	4.82		SECT.5	.311 1.368	.158 .054	.002 .003	ACC. 4	.51 -174.33	** .420		
Q	=30.92 (KPA)		SECT.6	.261 .938	.186 .057	-.083 -.021	ACC. 5	1.28 -180.74	** .420	.25	.24
P-SETTL.	=148.7 (KPA)						ACC. 6	1.92 -179.36	** .420		
T-SETTL.	=15.00		WING	.285 1.326	.047 .042	.087 .164	ACC. 7	2.33 -178.35	** .700		
						(WING : CM ABOUT	CALC. 8	2.88 -180.42	** .700	.62	.24
DALFA	= .250 (DEG)					AERODYN. CENTER)	CALC. 9	3.35 -179.93	** .700		
FREQ.	=24.00 (Hz)						CALC.10	3.89 -180.33	** .920		
REDFR.	= .099						ACC.11	4.29 -180.33	** .920	.92	.25
HARM.	= 1						ACC.12	4.70 -180.32	** .920		

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.595	.401			**			
2		.5	-.228	.696			**			
3		1.5	-.924	.919	-12.98	1.971	**			
4		3.0	-1.036	.956	-14.01	2.020	**			
5		5.0	-1.014	.949			**	-10.56	1.978	105
6		7.5	-.837	.891			**			
7		10.0	-.686	.842	-5.193	1.118	**			
8		15.0	-.565	.804	-3.541	.679	**			
9		20.0	-.491	.780	-3.183	.403	**			
10		25.0	-.455	.768	-2.774	.273	**			
11		30.0	-.418	.757	-2.286	.227	**			
12		35.0	-.395	.749	-1.779	.130	**			
13		40.0	-.376	.743	-1.755	-.028	**			
14		45.0	-.360	.738	-1.551	-.028	**			
15		50.0	-.339	.731	-1.452	-.053	**			
16		55.0	-.311	.722	-1.077	-.111	**			
17		60.0	-.283	.713	-1.075	-.202	**			
18		65.0	-.246	.701	-.854	-.143	**			
19		70.0	-.201	.687	-.646	-.091	**	-.714	-.263	119
20		75.0	-.162	.674	-.375	-.032	**			
21		80.0	-.116	.659	-.371	.012	**			
22		85.0	-.051	.638			**			
23		90.0	-.002	.621	-.221	-.075	**			
24		95.0	.068	.598			**			
	25	.5	.705	.352			**			
	26	1.5	.383	.486	5.746	1.051	**			
	27	3.0	.299	.517	5.558	.927	**			
	28	5.0	.209	.549	4.814	-.492	**			
	29	7.5	.072	.596			**			
		10.0					**			
	31	15.0	-.087	.649	3.077	-.453	**			
	32	20.0	-.196	.685	2.924	-.151	**			
	33	25.0	-.259	.706			**			
	34	30.0	-.327	.727	2.146	-.157	**			
	35	40.0	-.348	.734	1.614	-.118	**			
	36	50.0	-.324	.726	1.500	.117	**			
	37	60.0	-.198	.686	1.089	.326	**			
	38	70.0	-.004	.622	.674	.424	**			
	39	80.0	.152	.569	.364	.269	**			
	40	90.0	.251	.534	.310	.359	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 1 ** RE	IM
Cz	UPPER	.335	.715	-.079
Cz	LOWER	-.075	.538	.025
Cz	TOTAL	.260	1.253	-.053
Cm	UPPER	.016	-.049	.038
Cm	LOWER	-.001	.031	.046
Cm	TOTAL	.015	-.017	.083

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.631	.386			**			
2		.5	-.204	.688			**			
3		1.5	-.928	.921	-18.60	.993	**			
4		3.0	-1.070	.967	-15.24	.968	**			
5		5.0	-1.098	.977	-9.024	1.918	**			
6		7.5	-.872	.902			**			
7		10.0	-.731	.857	-5.319	1.299	**			
8		15.0	-.598	.814	-3.953	.487	**			
		20.0					**			
10		25.0	-.487	.779	-2.927	.233	**			
11		30.0	-.459	.770	-2.317	.406	**			
12		35.0	-.415	.756	-2.079	-.063	**			
13		40.0	-.392	.748	-1.968	-.282	**			
		45.0					**			
15		50.0	-.360	.738	-1.481	.100	**			
16		55.0	-.325	.727	-1.144	-.052	**			
17		60.0	-.295	.717	-1.061	-.252	**			
18		65.0	-.268	.709	-.821	-.188	**			
19		70.0	-.217	.692	-.746	-.366	**			
20		75.0	-.168	.676	-.372	-.075	**			
21		80.0	-.127	.663	-.362	-.069	**			
22		85.0	-.068	.643			**			
23		90.0	-.006	.623	-.343	-.057	**			
24		95.0	.067	.598			**			
	25	.5	.719	.345			**			
	26	1.5	.401	.479	7.395	1.642	**			
		3.0					**			
	28	5.0	.177	.560	3.123	-1.822	**			
	29	7.5	.087	.591			**			
	30	10.0	.041	.607	3.591	-.858	**			
	31	15.0	-.089	.650	3.231	-.811	**			
	32	20.0	-.193	.684	2.733	-.358	**			
	33	25.0	-.253	.704			**			
	34	30.0	-.309	.722	2.429	-.635	**			
	35	40.0	-.343	.733	2.317	-.146	**			
	36	50.0	-.316	.724	1.694	-.052	**			
	37	60.0	-.177	.679	.785	.164	**			
	38	70.0	.014	.616	.655	.280	**			
	39	80.0	.168	.564	.316	.042	**			
	40	90.0	.261	.531	.314	.211	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 2 ** RE	IM
Cz	UPPER	.356	.805	-.055
Cz	LOWER	-.064	.558	-.048
Cz	TOTAL	.292	1.362	-.103
Cm	UPPER	.018	-.068	.040
Cm	LOWER	.002	.034	.028
Cm	TOTAL	.020	-.034	.068

*** L.GANN *** RUN 22 ***

TABLE 9.11 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.664	.371			**			
2		.5	-.205	.688			**			
3		1.5	-.940	.924	-18.20	-.453	**			
4		3.0	-1.027	.953	-15.52	.201	**			
5		5.0	-1.022	.951	-11.17	.021	**			
6		7.5	-.883	.906			**			
7		10.0	-.739	.859	-6.879	.539	**	-7.346	.418	307
8		15.0	-.623	.822	-4.667	.056	**			
9		20.0	-.545	.797	-3.838	-.005	**	-4.154	-.040	309
10		25.0	-.496	.782	-3.347	-.119	**			
		30.0					**			
12		35.0	-.433	.762	-2.338	-.212	**			
13		40.0	-.414	.755	-1.971	-.362	**	-2.194	-.263	313
14		45.0	-.395	.749	-1.718	-.409	**			
15		50.0	-.372	.742	-1.072	-.044	**	-1.652	-.289	315
16		55.0	-.340	.732	-1.242	-.199	**			
17		60.0	-.314	.723	-1.129	-.277	**	-1.137	-.309	317
18		65.0	-.281	.713	-.934	-.219	**			
19		70.0	-.240	.700	-.664	-.304	**	-.689	-.244	319
20		75.0	-.194	.684	-.436	-.042	**			
21		80.0	-.143	.668	-.317	-.062	**	-.333	-.154	321
22		85.0	-.088	.650			**			
23		90.0	-.021	.628	-.196	-.120	**	-.110	-.112	323
24		95.0	.058	.601			**			
	25	.5	.731	.340			**			
	26	1.5	.440	.464	.060	-.078	**			
	27	3.0	.302	.516	9.042	2.300	**			
		5.0					**			
	29	7.5	.087	.591			**			
	30	10.0	.014	.616	3.964	-.503	**			
		15.0					**			
	32	20.0	-.184	.681	3.107	-.105	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.294	.717	1.830	.276	**			
	37	60.0	-.162	.674	1.074	.273	**			
	38	70.0	.024	.613	.637	.360	**			
	39	80.0	.182	.559	.321	.236	**			
	40	90.0	.275	.526	.328	.238	**			

OVERALL COEFFICIENTS		STEADY	SECTION 3 RE	IM
Cz	UPPER	.368	.881	.035
Cz	LOWER	-.038	.597	.061
Cz	TOTAL	.330	1.478	.096
Cm	UPPER	.023	-.093	.027
Cm	LOWER	.007	.039	.033
Cm	TOTAL	.030	-.053	.059

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.739	.336			**			
2		.5	-.103	.655			**			
3		1.5	-.728	.856	-20.34	-3.405	**			
4		3.0	-.896	.910	-15.44	-1.145	**			
5		5.0	-.936	.923	-9.181	.010	**	-13.71	.607	405
6		7.5	-.790	.876			**			
7		10.0					**	-5.522	.157	407
8		15.0	-.616	.820	-5.705	-.126	**			
9		20.0	-.550	.799	-4.347	-.244	**	-4.636	-.240	409
10		25.0	-.505	.784	-3.697	-.244	**			
		30.0					**			
12		35.0	-.444	.765	-2.596	-.113	**			
13		40.0	-.429	.760	-2.366	-.364	**	-2.486	-.308	413
14		45.0	-.411	.754	-1.888	-.326	**			
15		50.0	-.387	.747	-1.777	-.182	**	-1.842	-.336	415
16		55.0	-.368	.741	-1.190	.074	**			
17		60.0	-.341	.732	-1.465	-.280	**	-1.297	-.280	417
18		65.0	-.315	.724	-1.134	-.281	**			
19		70.0	-.279	.712	-.791	-.010	**			
20		75.0	-.262	.706	-.571	-.131	**			
21		80.0	-.175	.678	-.393	-.002	**	-.492	-.172	421
22		85.0	-.098	.653			**			
23		90.0	-.027	.630	-.146	.045	**			
24		95.0	.046	.605			**			
	25	.5	.673	.367			**			
	26	1.5	.333	.505	8.837	3.921	**			
	27	3.0	.204	.551	7.622	3.071	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.102	.654	4.032	.088	**			
	32	20.0	-.186	.682	3.441	.162	**			
	33	25.0	-.238	.699			**			
		30.0					**			
	35	40.0	-.308	.721	2.602	.465	**			
	36	50.0	-.283	.713	1.725	.329	**			
	37	60.0	-.129	.663	1.218	.487	**			
	38	70.0	.046	.605	.707	.384	**			
	39	80.0	.207	.550	.399	.296	**			
	40	90.0	.285	.522	.325	.407	**			

OVERALL COEFFICIENTS		STEADY	SECTION 4 RE	IM
Cz	UPPER	.374	.931	.066
Cz	LOWER	-.043	.730	.183
Cz	TOTAL	.331	1.661	.248
Cm	UPPER	.032	-.072	-.002
Cm	LOWER	.012	.013	.022
Cm	TOTAL	.043	-.058	.020

*** LANN *** RUN 22 *** TABLE 9.11 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.781	.315			**			
2		.5	.097	.588			**			
3		1.5	-.483	.778	-17.08	-4.605	**			
4		3.0	-.670	.837	-12.94	-2.189	**			
5		5.0	-.687	.843	-14.72	-3.391	**	-12.57	-.212	505
6		7.5	-.705	.849			**			
7		10.0	-.602	.815	-4.660	.313	**			
		15.0					**			
9		20.0	-.518	.788	-4.320	-.322	**			
10		25.0	-.489	.779	-3.745	-.254	**			
11		30.0	-.459	.770	-3.340	-.373	**			
		35.0					**			
13		40.0	-.418	.757	-2.350	-.374	**			
14		45.0	-.406	.753	-1.980	-.443	**			
15		50.0	-.390	.748	-1.710	-.182	**			
16		55.0	-.372	.742	-1.429	-.216	**			
17		60.0	-.354	.736	-1.255	-.331	**			
18		65.0	-.339	.731	-.998	-.149	**			
19		70.0	-.314	.723	-.809	-.149	**	-.851	-.196	519
20		75.0	-.293	.717	-.511	.026	**			
21		80.0	-.237	.698	-.193	.005	**			
22		85.0	-.134	.665			**			
23		90.0	-.053	.638	-.079	-.014	**			
24		95.0	.042	.607			**			
	25	.5	.599	.400			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	-.142	.668			**			
		15.0					**			
	32	20.0	-.202	.687	4.001	.256	**			
		25.0					**			
	34	30.0	-.272	.710	2.602	.101	**			
		40.0					**			
	36	50.0	-.301	.719	1.474	.043	**			
		60.0					**			
		70.0					**			
	39	80.0	.214	.547	.291	.209	**			
	40	90.0	.289	.521	.252	.177	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.357	.910	.128
Cz	LOWER	-.047	.458	.030
Cz	TOTAL	.311	1.368	.158
Cm	UPPER	.042	-.080	-.017
Cm	LOWER	.012	.082	.020
Cm	TOTAL	.054	.002	.003

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.789	.311			**			
		.5					**			
3		1.5	-.176	.679			**			
		3.0					**			
5		5.0	-.480	.776	-13.55	-5.273	**			
		7.5					**			
7		10.0	-.499	.782	-6.213	-.626	**			
8		15.0	-.469	.773	-4.329	-.400	**			
9		20.0	-.511	.786			**			
10		25.0	-.434	.762	-2.287	-.207	**			
11		30.0	-.408	.753			**			
12		35.0	-.388	.747	-1.565	-.248	**			
13		40.0	-.362	.739	-1.459	-.273	**			
14		45.0	-.350	.735	-1.183	-.256	**			
15		50.0	-.340	.732	-1.083	-.102	**			
16		55.0	-.331	.729	-.823	-.094	**			
17		60.0	-.317	.724	-.785	-.201	**			
18		65.0	-.316	.724	-.582	-.030	**			
19		70.0	-.309	.722	-.521	-.015	**			
20		75.0	-.289	.715	-.280	-.012	**			
21		80.0	-.246	.701	-.218	.004	**			
22		85.0	-.137	.666			**			
23		90.0	-.028	.630	-.138	.021	**			
24		95.0	.060	.600			**			
	25	.5	.402	.479			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.199	.686	3.173	.080	**			
		20.0					**			
	33	25.0	-.255	.704			**			
	34	30.0	-.268	.709	1.555	.140	**			
	35	40.0	-.294	.717	.948	.060	**			
	36	50.0	-.263	.707	.669	.104	**			
		60.0					**			
		70.0					**			
	39	80.0	.219	.546	-.130	.139	**			
	40	90.0	.281	.523	-.055	.179	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.303	.698	.154
Cz	LOWER	-.042	.240	.032
Cz	TOTAL	.261	.938	.186
Cm	UPPER	.043	-.084	-.041
Cm	LOWER	.014	.000	.020
Cm	TOTAL	.057	-.083	-.021

*** LANN *** RUN 118 ***

TABLE 9.12

TEST CONDITIONS		NORM. COEFF. Cz	Czi RE	Czi IM	MOM. COEFF. Cm	Cmi RE	Cmi IM
RUNNR. = 118	SECT.1	.285	1.475	-.134	.013	.049	.108
	SECT.2	.304	2.058	-.408	.017	-.101	.168
ALFA = .60 (DEG)	SECT.3	.353	1.709	.083	.025	-.066	.109
MACH = .773	SECT.4	.342	2.428	.065	.040	-.211	.123
RE*10**-6= 5.26	SECT.5	.329	2.194	.031	.051	-.126	.063
Q =42.10 (KPA)	SECT.6	.261	1.180	.089	.056	-.100	.029
P-SETTL. =149.5 (KPA)							
T-SETTL. =27.00	WING	.302	1.767	-.078	.037	.285	.179
					(WING : CM ABOUT AERODYN. CENTER)		
DALFA = .249 (DEG)							
FREQ. =24.00 (Hz)							
REDFR. = .080							
HARM. = 1							

	DISPLACEMENTS REL.TO LVDT AMPL.(-)	PHASE (DEG)	VIBRATION MODE **Y/(B/2)	HEAVE AT X=.224 M (MM)	PITCH (DEG)
LVDT	1.00	0.00	.000		
CALC. 1	1.10	1.77	.100		
ACC. 2	.34	.67	.100	.01	.23
ACC. 3	.60	-176.85	.100		
ACC. 4	.27	-166.63	.420		
ACC. 5	1.02	-179.51	.420	.11	.24
ACC. 6	1.67	-177.45	.420		
ACC. 7	1.85	-175.99	.700		
CALC. 8	2.37	-178.72	.700	.38	.23
CALC. 9	2.86	-178.02	.700		
CALC.10	3.13	-178.02	.920		
ACC.11	3.54	-178.23	.920	.50	.25
ACC.12	3.95	-178.40	.920		

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.704	.447					
2		.5	.030	.760					
3		1.5	-.637	1.056	-5.115	1.175			
4		3.0	-1.019	1.248	-9.081	2.561			
5		5.0	-1.002	1.239			-9.471	2.680	105
6		7.5	-1.185	1.343					
7		10.0	-1.172	1.335	-10.93	3.891			
8		15.0	-.626	1.050	-3.605	.306			
9		20.0	-.566	1.022	-3.148	.187			
10		25.0	-.532	1.007	-2.971	.018			
11		30.0	-.495	.990	-2.815	.127			
12		35.0	-.469	.978					
13		40.0	-.450	.970	-2.200	-.487			
14		45.0	-.431	.961	-1.795	-.409			
15		50.0	-.405	.949	-1.613	-.429			
16		55.0	-.368	.933	-1.172	-.227			
17		60.0	-.331	.917	-1.180	-.312			
18		65.0	-.280	.894	-.851	-.482			
19		70.0	-.225	.870	-.633	-.388	-.643	-.334	119
20		75.0	-.174	.848	-.359	-.285			
21		80.0	-.118	.824	-.341	-.260			
22		85.0	-.045	.792					
23		90.0	.013	.767	-.071	-.285			
24		95.0	.087	.735					
	25	.5	.703	.447					
	26	1.5	.371	.609	4.620	-.098			
	27	3.0	.301	.641	5.137	.172			
	28	5.0	.217	.678	6.207	-.529			
	29	7.5	.069	.743					
		10.0							
	31	15.0	-.104	.818	2.952	-.755			
	32	20.0	-.234	.874	3.614	-.734			
	33	25.0	-.319	.911					
	34	30.0	-.414	.953	3.995	-.671			
	35	40.0	-.420	.956	2.684	-.647			
	36	50.0	-.423	.958	2.460	-.209			
	37	60.0	-.239	.876	1.491	.074			
	38	70.0	-.007	.775	.933	.310			
	39	80.0	.163	.702	.489	.096			
	40	90.0	.269	.655	.496	.085			

OVERALL COEFFICIENTS		STEADY	SECTION 1 RE	SECTION 1 IM
Cz	UPPER	.391	.778	-.062
Cz	LOWER	-.106	.697	-.072
Cz	TOTAL	.285	1.475	-.134
Cm	UPPER	.018	-.044	.093
Cm	LOWER	-.004	.093	.014
Cm	TOTAL	.013	.049	.108

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.736	.429					
2		.5	.063	.745					
3		1.5	-.640	1.057	-8.453	2.315			
4		3.0	-.953	1.213	-8.123	2.819			
5		5.0	-1.059	1.270	-8.619	2.690			
6		7.5	-1.204	1.354					
7		10.0	-1.227	1.369	-5.036	1.905			
8		15.0	-.799	1.134	-52.30	22.548			
9		20.0	-.561	1.020	-2.500	-.663			
10		25.0	-.540	1.010	-.997	-.922			
11		30.0	-.519	1.001	-1.302	-.263			
12		35.0	-.474	.981	-1.700	-.434			
13		40.0	-.454	.971	-1.609	-.498			
14		45.0	-.430	.961					
15		50.0	-.416	.954	-1.015	-.319			
16		55.0	-.372	.935	-.744	-.078			
17		60.0	-.332	.917	-.798	-.084			
18		65.0	-.292	.899	-.616	-.209			
19		70.0	-.233	.874	-.387	-.215			
20		75.0	-.174	.848	-.233	-.071			
21		80.0	-.122	.825	-.220	-.063			
22		85.0	-.056	.797					
23		90.0	.012	.767	-.135	.033			
24		95.0	.088	.734					
	25	.5	.708	.444					
	26	1.5	.379	.606	5.460	.436			
	27	3.0	.277	.651					
	28	5.0	.165	.701	3.165	-.977			
	29	7.5	.071	.742					
	30	10.0	.021	.763	3.435	-.725			
	31	15.0	-.121	.825	3.100	-.690			
	32	20.0	-.247	.880	3.810	-.580			
	33	25.0	-.328	.915					
	34	30.0	-.406	.950	4.368	-.330			
	35	40.0	-.455	.972	3.544	-.216			
	36	50.0	-.406	.950	2.372	.079			
	37	60.0	-.210	.863	1.373	.363			
	38	70.0	.016	.766	.845	.357			
	39	80.0	.180	.694	.492	.214			
	40	90.0	.278	.651	.496	.203			

OVERALL COEFFICIENTS		STEADY	SECTION 2 RE	SECTION 2 IM
Cz	UPPER	.406	1.339	-.384
Cz	LOWER	-.102	.718	-.025
Cz	TOTAL	.304	2.058	-.408
Cm	UPPER	.018	-.203	.125
Cm	LOWER	-.001	.101	.043
Cm	TOTAL	.017	-.101	.168

*** LANN *** RUN 118 ***

TABLE 9.12 (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.760	.416			**			
2		.5	.047	.752			**			
3		1.5	-.645	1.059	-7.300	.584	**			
4		3.0	-.924	1.197	-9.164	1.257	**			
5		5.0	-1.034	1.256	-8.047	.961	**			
6		7.5	-1.174	1.337			**			
7		10.0	-1.183	1.342	-4.290	.474	**	-4.598	.897	307
8		15.0	-1.087	1.286	-28.81	4.653	**			
9		20.0	-.563	1.021	-11.58	-.435	**	-8.644	.323	309
10		25.0	-.514	.999	1.383	-2.362	**			
		30.0					**			
12		35.0	-.482	.984	-.506	-1.176	**			
13		40.0	-.469	.978	-.683	-1.067	**	-.890	-.854	313
14		45.0	-.449	.969	-.914	-1.135	**			
15		50.0	-.423	.957	-.597	-.541	**	-.707	-.645	315
16		55.0	-.380	.938	-.592	-.518	**			
17		60.0	-.346	.923	-.730	-.408	**	-.501	-.497	317
18		65.0	-.301	.903	-.562	-.435	**			
19		70.0	-.251	.881	-.305	-.437	**	-.238	-.354	319
20		75.0	-.194	.856	-.196	-.373	**			
21		80.0	-.132	.830	-.332	-.194	**	-.145	-.142	321
22		85.0	-.070	.803			**			
23		90.0	.001	.772	-.113	-.182	**	-.039	-.107	323
24		95.0	.081	.737			**			
	25	.5	.715	.441			**			
	26	1.5	.395	.598	6.289	.854	**			
	27	3.0	.275	.652	7.572	1.384	**			
		5.0					**			
	29	7.5	.062	.746			**			
	30	10.0	-.015	.779	3.312	-.624	**			
		15.0					**			
	32	20.0	-.243	.878	3.937	-.448	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.377	.937	3.161	.232	**			
	37	60.0	-.189	.854	1.257	.078	**			
	38	70.0	.029	.760	.712	.181	**			
	39	80.0	.192	.689	.520	.171	**			
	40	90.0	.291	.645	.438	.140	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.423	.967	.077
Cz	LOWER	-.070	.742	.006
Cz	TOTAL	.353	1.709	.083
Cm	UPPER	.020	-.156	.089
Cm	LOWER	.005	.091	.020
Cm	TOTAL	.025	-.066	.109

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.812	.386			**			
2		.5	.117	.722			**			
3		1.5	-.525	1.004	-10.90	.349	**			
4		3.0	-.842	1.155	-7.635	.940	**			
5		5.0	-1.004	1.240	-5.136	1.023	**	-7.941	1.345	405
6		7.5	-1.086	1.286			**			
7		10.0					**	-6.300	1.405	407
8		15.0	-.864	1.166	-66.93	8.977	**			
9		20.0	-.575	1.026	-.434	-2.584	**	-.478	-2.153	409
10		25.0	-.551	1.015	3.927	-2.147	**			
		30.0					**			
12		35.0	-.509	.996	-1.476	-.634	**			
13		40.0	-.495	.990	-1.342	-.548	**	-1.447	-.538	413
14		45.0	-.475	.981	-1.203	-.463	**			
15		50.0	-.445	.967	-.978	-.592	**	-1.254	-.425	415
16		55.0	-.416	.954	-.955	-.317	**			
17		60.0	-.380	.938	-.940	-.297	**	-.856	-.321	417
		65.0					**			
19		70.0	-.295	.901	-.300	-.315	**			
20		75.0	-.263	.887	-.059	-.119	**			
21		80.0	-.167	.845	0.000	0.000	**	-.143	-.126	421
22		85.0	-.080	.807			**			
23		90.0	-.003	.774	.031	-.127	**			
24		95.0	.072	.742			**			
	25	.5	.657	.471			**			
	26	1.5	.301	.641	7.456	1.375	**			
	27	3.0	.177	.696	6.780	1.308	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.148	.837	4.012	-.267	**			
	32	20.0	-.249	.881	4.501	-.286	**			
	33	25.0	-.318	.911			**			
		30.0					**			
	35	40.0	-.411	.952	4.732	.649	**			
	36	50.0	-.365	.931	2.992	.395	**			
	37	60.0	-.152	.838	1.555	.429	**			
	38	70.0	.051	.750	.887	.361	**			
	39	80.0	.220	.677	.621	.346	**			
	40	90.0	.302	.640	.556	.256	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.422	1.511	-.040
Cz	LOWER	-.080	.917	.105
Cz	TOTAL	.342	2.428	.065
Cm	UPPER	.030	-.308	.081
Cm	LOWER	.010	.097	.043
Cm	TOTAL	.040	-.211	.123

*** LANN *** RUN 118 ***

TABLE 9.12 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.827	.377			**			
2		.5	.238	.669			**			
3		1.5	-.342	.921	-12.24	-.984	**			
4		3.0	-.617	1.046	-7.621	.401	**			
5		5.0	-.735	1.102	-12.59	.125	**	-15.24	1.997	505
6		7.5	-.806	1.137			**			
7		10.0	-.823	1.146	-28.76	1.091	**			
		15.0					**			
9		20.0	-.633	1.054	-5.173	.393	**			
10		25.0	-.585	1.031	-4.568	-.103	**			
11		30.0	-.549	1.014	-3.720	-.065	**			
		35.0					**			
13		40.0	-.494	.989	-2.619	-.740	**			
14		45.0	-.475	.981	-2.033	-.744	**			
15		50.0	-.453	.971	-1.613	-.512	**			
16		55.0	-.426	.959	-1.456	-.118	**			
17		60.0	-.398	.946	-1.250	-.161	**			
18		65.0	-.372	.935	-.588	-.275	**			
19		70.0	-.339	.920	-.449	-.170	**	-.384	-.132	519
20		75.0	-.304	.904	.108	.041	**			
21		80.0	-.227	.871	.231	-.032	**			
22		85.0	-.115	.822			**			
23		90.0	-.025	.783	.170	-.035	**			
24		95.0	.069	.743			**			
	25	.5	.584	.509			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	-.120	.824	4.569	-.470	**			
		15.0					**			
	32	20.0	-.270	.890	5.255	-.265	**			
		25.0					**			
	34	30.0	-.359	.929	4.997	.001	**			
		40.0					**			
	36	50.0	-.372	.935	2.364	.206	**			
		60.0					**			
		70.0					**			
	39	80.0	.226	.674	.403	.202	**			
	40	90.0	.307	.638	.276	.105	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.407	1.420	.022
Cz	LOWER	-.078	.774	.009
Cz	TOTAL	.329	2.194	.031
Cm	UPPER	.043	-.243	.031
Cm	LOWER	.008	.118	.032
Cm	TOTAL	.051	-.126	.063

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.824	.378			**			
		.5					**			
3		1.5	-.095	.814			**			
		3.0					**			
5		5.0	-.512	.998	-13.26	-1.197	**			
		7.5					**			
7		10.0	-.603	1.039	-8.535	.429	**			
8		15.0	-.603	1.040	-6.325	.295	**			
9		20.0	-.570	1.024	-4.597	-.158	**			
10		25.0	-.532	1.007	-2.590	-.201	**			
11		30.0	-.483	.984			**			
12		35.0	-.452	.970	-1.011	-.603	**			
13		40.0	-.417	.955	-1.581	-.471	**			
14		45.0	-.398	.946	-1.369	-.746	**			
15		50.0	-.382	.939	-.742	-.397	**			
16		55.0	-.366	.932	-.575	.067	**			
17		60.0	-.348	.924	-.814	-.053	**			
18		65.0	-.341	.921	-.462	-.052	**			
19		70.0	-.329	.916	-.259	-.114	**			
20		75.0	-.296	.901	-.098	.247	**			
21		80.0	-.231	.873	0.000	0.000	**			
22		85.0	-.107	.819			**			
23		90.0	.006	.770	-.081	-.021	**			
24		95.0	.092	.733			**			
	25	.5	.398	.597			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.268	.889	4.353	-.244	**			
		20.0					**			
	33	25.0	-.340	.920			**			
	34	30.0	-.351	.925	3.282	.301	**			
	35	40.0	-.370	.934	2.108	.108	**			
	36	50.0	-.309	.907	.745	.170	**			
		60.0					**			
		70.0					**			
	39	80.0	.233	.671	-.024	.131	**			
	40	90.0	.296	.643	.104	.145	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.336	.775	.059
Cz	LOWER	-.075	.405	.030
Cz	TOTAL	.261	1.180	.089
Cm	UPPER	.042	-.119	.005
Cm	LOWER	.014	.019	.024
Cm	TOTAL	.056	-.100	.029

*** LANN *** RUN 124 ***

TABLE 9.13

TEST CONDITIONS		NORM. COEFF. Cz RE	NORM. COEFF. Czi IM	MOM. COEFF. Cm RE	MOM. COEFF. Cmi IM	DISPLACEMENTS REL.TO LVDT AMPL.(-)	DISPLACEMENTS REL.TO LVDT PHASE (DEG)	VIBRATION MODE **Y/(B/2)	HEAVE AT X=.224 M (MM)	PITCH (DEG)
RUNNR. = 124		SECT.1	.447	1.386	-.142	.013	.063	.130						
ALFA = 2.60 (DEG)		SECT.2	.487	1.523	-.203	.013	.035	.145						
MACH = .771		SECT.3	.550	2.251	-.094	.020	-.022	.139						
RE*10**-6= 5.22		SECT.4	.557	1.644	.212	.033	-.139	.157						
Q =41.71 (KPA)		SECT.5	.526	1.996	.050	.043	-.134	.083						
P-SETTL. =148.5 (KPA)		SECT.6	.409	1.424	.158	.044	-.165	.023						
T-SETTL. =27.00		WING	.480	1.614	-.049	.045	.247	.231						
						(WING : CM ABOUT AERODYN. CENTER)								
DALFA = .249 (DEG)										
FREQ. =24.00 (Hz)										
REDFR. = .080										
HARM. = 1										
		LVDT				1.00	0.00	** .000		
		CALC. 1				1.09	2.48	** .100		
		ACC. 2				.34	1.69	** .100	.01	.22
		ACC. 3				.57	-176.46	** .100		
		ACC. 4				.24	-156.77	** .420		
		ACC. 5				.98	-179.19	** .420	.10	.24
		ACC. 6				1.61	-177.35	** .420		
		ACC..7				1.78	-175.51	** .700		
		CALC. 8				2.27	-178.41	** .700	.37	.22
		CALC. 9				2.75	-177.82	** .700		
		CALC.10				2.97	-177.75	** .920		
		ACC.11				3.37	-177.95	** .920	.43	.25
		ACC.12				3.78	-178.11	** .920		

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.600	.500			**			
2		.5	-.175	.847			**			
3		1.5	-.913	1.189	-6.012	1.354	**			
4		3.0	-1.265	1.388	-5.124	.801	**			
5		5.0	-1.310	1.416			**	-6.617	1.911	105
6		7.5	-1.368	1.455			**			
7		10.0	-1.375	1.460	-4.070	2.166	**			
8		15.0	-1.305	1.413	-4.576	1.957	**			
9		20.0	-.747	1.106	-17.85	6.178	**			
10		25.0	-.620	1.045	-4.758	.559	**			
11		30.0	-.567	1.021	-2.719	-.123	**			
12		35.0	-.531	1.004			**			
13		40.0	-.498	.989	-1.589	-.621	**			
14		45.0	-.473	.978	-1.216	-.678	**			
15		50.0	-.439	.962	-1.138	-.841	**			
16		55.0	-.394	.943	-1.062	-.669	**			
17		60.0	-.351	.924	-.725	-.627	**			
18		65.0	-.296	.899	-.630	-.465	**			
19		70.0	-.237	.873	-.295	-.527	**	-.403	-.481	119
20		75.0	-.182	.850	-.270	-.238	**			
21		80.0	-.123	.824	-.076	-.334	**			
22		85.0	-.046	.791			**			
23		90.0	.011	.766	.047	-.248	**			
24		95.0	.085	.734			**			
	25	.5	.791	.397			**			
	26	1.5	.517	.540	3.798	.397	**			
	27	3.0	.429	.581	4.334	.868	**			
	28	5.0	.335	.624	2.568	-.332	**			
	29	7.5	.190	.688			**			
		10.0					**			
	31	15.0	.004	.769	2.473	-.670	**			
	32	20.0	-.123	.824	2.857	-.568	**			
	33	25.0	-.209	.861			**			
	34	30.0	-.303	.902	3.307	-.671	**			
	35	40.0	-.320	.910	2.329	-.301	**			
	36	50.0	-.345	.921	2.681	.044	**			
	37	60.0	-.195	.855	1.455	.136	**			
	38	70.0	.022	.762	.905	.133	**			
	39	80.0	.184	.691	.474	.211	**			
	40	90.0	.286	.646	.338	.237	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 1 ** RE	IM
Cz	UPPER	.484	.816	-.111
Cz	LOWER	-.037	.570	-.031
Cz	TOTAL	.447	1.386	-.142
Cm	UPPER	.012	-.048	.107
Cm	LOWER	.001	.111	.023
Cm	TOTAL	.013	.063	.130

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.628	.485			**			
2		.5	-.137	.830			**			
3		1.5	-.960	1.214	-6.869	1.695	**			
4		3.0	-1.207	1.352	-6.192	2.055	**			
5		5.0	-1.314	1.419	-5.168	1.878	**			
6		7.5	-1.425	1.494			**			
7		10.0	-1.427	1.496	-4.099	2.539	**			
8		15.0	-1.369	1.456	-5.055	2.611	**			
9		20.0	-1.332	1.431	-3.889	2.438	**			
10		25.0	-.763	1.113	-19.67	5.790	**			
11		30.0	-.587	1.030	-11.59	3.841	**			
12		35.0	-.486	.984	-3.580	-.318	**			
13		40.0	-.451	.968	.532	-1.727	**			
14		45.0	-.432	.959			**			
15		50.0	-.419	.954	.418	-1.204	**			
16		55.0	-.376	.934	.296	-.908	**			
17		60.0	-.336	.917	.151	-.815	**			
18		65.0	-.297	.900	.145	-.504	**			
19		70.0	-.236	.873	.155	-.549	**			
20		75.0	-.175	.846	.004	-.316	**			
21		80.0	-.124	.824	-.019	-.230	**			
22		85.0	-.056	.795			**			
23		90.0	.011	.767	.011	-.059	**			
24		95.0	.086	.734			**			
	25	.5	.799	.393			**			
	26	1.5	.527	.535	4.567	.954	**			
	27	3.0	.416	.587			**			
	28	5.0	.288	.645	1.757	-.592	**			
	29	7.5	.198	.685			**			
	30	10.0	.141	.710	2.955	-.625	**			
	31	15.0	-.003	.772	2.764	-.514	**			
	32	20.0	-.128	.826	2.965	-.443	**			
	33	25.0	-.211	.862			**			
	34	30.0	-.290	.896	3.423	-.629	**			
	35	40.0	-.352	.924	3.460	.154	**			
	36	50.0	-.330	.914	2.178	.143	**			
	37	60.0	-.168	.843	1.584	.297	**			
	38	70.0	.044	.752	.819	.187	**			
	39	80.0	.202	.683	.500	.205	**			
	40	90.0	.297	.641	.427	.237	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 2 ** RE	IM
Cz	UPPER	.518	.900	-.194
Cz	LOWER	-.031	.623	-.009
Cz	TOTAL	.487	1.523	-.203
Cm	UPPER	.008	-.078	.109
Cm	LOWER	.005	.113	.036
Cm	TOTAL	.013	.035	.145

*** L.GANN *** RUN 124 ***

TABLE 9.13 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.651	.474			**			
2		.5	-.165	.842			**			
3		1.5	-.915	1.190	-6.131	.474	**			
4		3.0	-1.214	1.357	-6.485	.051	**			
5		5.0	-1.311	1.418	-6.863	-.762	**			
6		7.5	-1.403	1.479			**			
7		10.0	-1.387	1.468	-4.964	.973	**	-5.070	1.166	307
8		15.0	-1.382	1.464	-4.987	1.190	**			
9		20.0	-1.335	1.433	-6.515	1.355	**	-6.487	1.629	309
10		25.0	-1.138	1.312	-40.09	7.311	**			
		30.0					**			
12		35.0	-.537	1.007	-16.23	2.396	**			
13		40.0	-.442	.964	-4.152	-.647	**	-4.311	-.380	313
14		45.0	-.409	.949	2.287	-2.267	**			
15		50.0	-.392	.942	2.006	-1.873	**	2.548	-2.067	315
16		55.0	-.361	.928	2.128	-1.686	**			
17		60.0	-.332	.915	1.440	-1.274	**	1.461	-1.330	317
18		65.0	-.291	.897	1.097	-1.101	**			
19		70.0	-.244	.876	.731	-.724	**	.854	-.833	319
20		75.0	-.188	.852	.564	-.629	**			
21		80.0	-.128	.826	.242	-.588	**	.322	-.367	321
22		85.0	-.068	.800			**			
23		90.0	.001	.771	.130	-.273	**	.145	-.195	323
24		95.0	.081	.736			**			
	25	.5	.807	.388			**			
	26	1.5	.548	.525	4.680	1.205	**			
	27	3.0	.423	.584	5.053	1.149	**			
		5.0					**			
	29	7.5	.199	.685			**			
	30	10.0	.114	.722	2.704	-.595	**			
		15.0					**			
	32	20.0	-.118	.822	3.075	-.424	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.300	.901	2.549	.124	**			
	37	60.0	-.146	.834	1.199	.151	**			
	38	70.0	.056	.747	.737	.086	**			
	39	80.0	.215	.678	.527	.160	**			
	40	90.0	.309	.636	.355	.248	**			

OVERALL COEFFICIENTS		STEADY	SECTION 3 RE	IM
Cz	UPPER	.549	1.656	-.098
Cz	LOWER	.001	.595	.004
Cz	TOTAL	.550	2.251	-.094
Cm	UPPER	.010	-.113	.118
Cm	LOWER	.010	.091	.020
Cm	TOTAL	.020	-.022	.139

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.714	.440			**			
2		.5	-.125	.825			**			
3		1.5	-.898	1.181	-9.442	.197	**			
4		3.0	-1.106	1.293	-6.812	.166	**			
5		5.0	-1.276	1.395	-5.249	-.069	**	-7.187	1.405	405
6		7.5	-1.328	1.428			**			
7		10.0					**	-4.483	1.040	407
8		15.0	-1.310	1.416	-8.163	.272	**			
9		20.0	-1.298	1.409	-7.198	.712	**	-7.185	1.362	409
10		25.0	-1.262	1.386	-9.636	1.469	**			
		30.0					**			
12		35.0	-.542	1.009	-18.74	.230	**			
13		40.0	-.451	.968	-5.087	-1.341	**	-5.903	-.406	413
14		45.0	-.422	.955	2.538	-2.061	**			
15		50.0	-.406	.948	4.034	-2.032	**	3.161	-1.945	415
16		55.0	-.390	.941	2.971	-1.899	**			
17		60.0	-.362	.928	2.634	-1.159	**	2.301	-1.334	417
		65.0					**			
19		70.0	-.285	.895	1.307	-.833	**			
20		75.0	-.254	.881	1.177	-.563	**			
21		80.0	-.163	.841	.592	-.336	**	.860	-.458	421
22		85.0	-.077	.804			**			
23		90.0	-.004	.773	.241	-.210	**			
24		95.0	.070	.741			**			
	25	.5	.773	.408			**			
	26	1.5	.483	.556	5.222	1.592	**			
	27	3.0	.349	.618	4.820	1.320	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.014	.777	3.024	-.239	**			
	32	20.0	-.119	.822	3.251	-.119	**			
	33	25.0	-.192	.854			**			
		30.0					**			
	35	40.0	-.307	.904	3.466	.405	**			
	36	50.0	-.287	.896	2.436	.211	**			
	37	60.0	-.111	.819	1.245	.384	**			
	38	70.0	.077	.738	.818	.393	**			
	39	80.0	.243	.665	.469	.248	**			
	40	90.0	.322	.630	.390	.270	**			

OVERALL COEFFICIENTS		STEADY	SECTION 4 RE	IM
Cz	UPPER	.560	.960	.117
Cz	LOWER	-.003	.684	.095
Cz	TOTAL	.557	1.644	.212
Cm	UPPER	.018	-.222	.123
Cm	LOWER	.015	.084	.034
Cm	TOTAL	.033	-.139	.157

*** LANN *** RUN 124 ***

TABLE 9.13 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.732	.431			**			
2		.5	-.044	.790			**			
3		1.5	-.653	1.061	-7.437	-.055	**			
4		3.0	-1.008	1.239	-7.094	-.121	**			
5		5.0	-1.114	1.298	-8.880	-.021	**	-7.776	1.283	505
6		7.5	-1.153	1.320			**			
7		10.0	-1.191	1.343	-7.917	.205	**			
		15.0					**			
9		20.0	-1.169	1.330	-11.41	.125	**			
10		25.0	-1.094	1.287	-22.71	1.087	**			
11		30.0	-.612	1.042	-35.68	2.370	**			
		35.0					**			
13		40.0	-.460	.972	5.762	-2.407	**			
14		45.0	-.457	.971	5.837	-1.787	**			
15		50.0	-.446	.966	4.075	-1.357	**			
16		55.0	-.426	.957	2.711	-.869	**			
17		60.0	-.399	.945	1.838	-.837	**			
18		65.0	-.373	.933	1.229	-.419	**			
19		70.0	-.338	.918	1.011	-.366	**	1.014	-.322	519
20		75.0	-.301	.901	.213	-.279	**			
21		80.0	-.226	.869	.128	-.068	**			
22		85.0	-.113	.820			**			
23		90.0	-.026	.782	-.151	-.036	**			
24		95.0	.067	.742			**			
	25	.5	.737	.427			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	.044	.752	2.932	-.429	**			
		15.0					**			
	32	20.0	-.130	.827	3.476	-.088	**			
		25.0					**			
	34	30.0	-.239	.874	2.978	-.529	**			
		40.0					**			
	36	50.0	-.304	.903	1.951	.076	**			
		60.0					**			
		70.0					**			
	39	80.0	.244	.665	.423	.134	**			
	40	90.0	.320	.631	.222	.091	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.527	1.461	.074
Cz	LOWER	-.001	.535	-.024
Cz	TOTAL	.526	1.996	.050
Cm	UPPER	.031	-.239	.067
Cm	LOWER	.012	.105	.016
Cm	TOTAL	.043	-.134	.083

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.734	.429			**			
		.5					**			
3		1.5	-.437	.962			**			
		3.0					**			
5		5.0	-.916	1.190	-8.674	-.321	**			
		7.5					**			
7		10.0	-.992	1.231	-10.54	-.710	**			
8		15.0	-1.011	1.240	-7.087	-.510	**			
9		20.0	-.939	1.202	-39.10	-1.774	**			
10		25.0	-.515	.997	-7.908	-2.169	**			
11		30.0	-.460	.972			**			
12		35.0	-.459	.971	5.016	-.677	**			
13		40.0	-.435	.961	1.973	-.133	**			
14		45.0	-.417	.953	.958	-.443	**			
15		50.0	-.399	.945	.359	-.003	**			
16		55.0	-.381	.937	.067	-.142	**			
17		60.0	-.361	.928	-.277	-.128	**			
18		65.0	-.354	.925	-.330	.014	**			
19		70.0	-.339	.918	-.316	.020	**			
20		75.0	-.305	.903	-.344	.155	**			
21		80.0	-.238	.874	-.577	.199	**			
22		85.0	-.115	.821			**			
23		90.0	-.007	.774	-.664	.111	**			
24		95.0	.077	.738			**			
	25	.5	.639	.480			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.132	.828	2.686	-.097	**			
		20.0					**			
	33	25.0	-.243	.876			**			
	34	30.0	-.272	.889	2.163	-.102	**			
	35	40.0	-.317	.909	1.743	.260	**			
	36	50.0	-.282	.893	.740	.139	**			
		60.0					**			
		70.0					**			
	39	80.0	.229	.672	-.047	.274	**			
	40	90.0	.294	.643	-.168	.239	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.427	1.146	.124
Cz	LOWER	-.010	.278	.034
Cz	TOTAL	.409	1.424	.158
Cm	UPPER	.034	-.181	-.013
Cm	LOWER	.010	.016	.036
Cm	TOTAL	.044	-.165	.023

*** LANN *** RUN 72 *** TABLE 9.14

TEST CONDITIONS		NORM. COEFF. Cz RE	NORM. COEFF. Czi IM	MOM. COEFF. Cm RE	MOM. COEFF. Cmi IM	DISPLACEMENTS REL.TO LVDT AMPL.(-)	DISPLACEMENTS REL.TO LVDT PHASE (DEG)	VIBRATION MODE **Y/(B/2)	HEAVE AT X=.224 M (MM)	PITCH (DEG)
RUNNR. = 72		SECT.1 .304	1.505	-.151	.014 .128 .053	LVDT	1.00	0.00 ** .000		
		SECT.2 .332	2.029	-.245	.015 .144 .076	CALC. 1	1.47	-.49 ** .100		
ALFA = .60	(DEG)	SECT.3 .383	2.522	-.126	.024 .133 .100	ACC. 2	.59	-7.55 ** .100	.11	.27
MACH = .821		SECT.4 .377	2.207	.006	.037 .029 .115	ACC. 3	.51	-162.07 ** .100		
RE*10**-6= 5.43		SECT.5 .344	2.019	-.101	.047 -.009 .079	ACC. 4	.42	-35.57 ** .420		
Q =45.18	(KPA)	SECT.6 .256	1.433	-.030	.049 -.113 .044	ACC. 5	.32	-190.70 ** .420	.31	.26
P-SETTL. =149.2	(KPA)					ACC. 6	1.13	-167.16 ** .420		
T-SETTL. =26.00		WING .325	1.866	-.121	.037 .387 .104	ACC. 7	.43	-139.54 ** .700		
					(WING : CM ABOUT	CALC. 8	1.01	-179.10 ** .700	.68	.29
DALFA = .251	(DEG)				AERODYN. CENTER)	CALC. 9	1.55	-168.57 ** .700		
FREQ. =12.00	(Hz)					CALC.10	1.21	-176.34 ** .920		
REDFR. = .038						ACC.11	1.50	-172.16 ** .920	.35	.19
HARM. = 1						ACC.12	1.79	-169.29 ** .920		

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.746	.453			**			
2		.5	.127	.761			**			
3		1.5	-.499	1.061	-3.704	1.186	**			
4		3.0	-.871	1.264	-5.303	.991	**			
5		5.0	-.890	1.276			**	-6.344	.845	105
6		7.5	-1.046	1.374			**			
7		10.0	-1.067	1.388	-3.814	.992	**			
8		15.0	-.982	1.332	-6.877	1.416	**			
9		20.0	-.629	1.128	-6.490	.546	**			
10		25.0	-.614	1.120	-3.170	.300	**			
11		30.0	-.609	1.117	-4.160	1.012	**			
12		35.0	-.599	1.112			**			
13		40.0	-.612	1.119	-2.505	.367	**			
14		45.0	-.549	1.086	-14.40	4.097	**			
15		50.0	-.429	1.025	-1.388	-1.136	**			
16		55.0	-.387	1.005	.244	-.784	**			
17		60.0	-.346	.985	-.041	-.646	**			
18		65.0	-.289	.957	-.240	-.379	**			
19		70.0	-.227	.927	-.287	-.238	**	-.202	-.404	119
20		75.0	-.171	.901	-.124	-.219	**			
21		80.0	-.110	.872	.001	-.152	**			
22		85.0	-.033	.836			**			
23		90.0	.026	.808	.074	-.161	**			
24		95.0	.101	.773			**			
	25	.5	.705	.476			**			
	26	1.5	.370	.647	3.797	-.705	**			
	27	3.0	.307	.677	3.952	-.182	**			
	28	5.0	.221	.717	3.916	.061	**			
	29	7.5	.077	.785			**			
		10.0					**			
	31	15.0	-.098	.866	3.107	-.362	**			
	32	20.0	-.238	.932	4.028	.017	**			
	33	25.0	-.334	.979			**			
	34	30.0	-.453	1.038	3.366	-.460	**			
	35	40.0	-.507	1.065	3.383	-.933	**			
	36	50.0	-.493	1.057	1.778	-.011	**			
	37	60.0	-.251	.939	1.103	.226	**			
	38	70.0	-.003	.822	.806	.168	**			
	39	80.0	.168	.742	.709	.193	**			
	40	90.0	.277	.691	.437	.140	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 1 ** RE	IM
Cz	UPPER	.428	.852	-.114
Cz	LOWER	-.124	.653	-.037
Cz	TOTAL	.304	1.505	-.151
Cm	UPPER	.021	.038	.036
Cm	LOWER	-.007	.090	.018
Cm	TOTAL	.014	.128	.053

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.777	.435			**			
2		.5	.168	.742			**			
3		1.5	-.488	1.055	-5.894	1.094	**			
4		3.0	-.794	1.219	-5.466	.829	**			
5		5.0	-.913	1.290	-5.849	.994	**			
6		7.5	-1.056	1.381			**			
7		10.0	-1.085	1.400	-2.239	.603	**			
8		15.0	-1.052	1.378	-4.635	.986	**			
9		20.0	-1.021	1.358	-7.114	1.698	**			
10		25.0	-.915	1.291	-21.87	6.100	**			
11		30.0	-.672	1.151	-9.147	1.750	**			
12		35.0	-.613	1.120	-7.467	1.352	**			
13		40.0	-.498	1.060	-12.26	.885	**			
14		45.0	-.430	1.026			**			
15		50.0	-.416	1.019	.813	-1.302	**			
16		55.0	-.373	.998	.348	-.940	**			
17		60.0	-.329	.976	.318	-.768	**			
18		65.0	-.286	.955	.274	-.516	**			
19		70.0	-.224	.926	.257	-.331	**			
20		75.0	-.162	.896	.154	-.295	**			
21		80.0	-.108	.871	.265	-.231	**			
22		85.0	-.039	.838			**			
23		90.0	.030	.807	.101	-.217	**			
24		95.0	.106	.771			**			
	25	.5	.702	.478			**			
	26	1.5	.370	.647	4.636	-.420	**			
	27	3.0	.273	.693			**			
	28	5.0	.162	.745	2.737	-1.014	**			
	29	7.5	.068	.789			**			
	30	10.0	.019	.812	3.386	-.405	**			
	31	15.0	-.127	.880	3.316	-.531	**			
	32	20.0	-.266	.946	4.409	-.353	**			
	33	25.0	-.362	.992			**			
	34	30.0	-.468	1.045	4.038	-.594	**			
	35	40.0	-.552	1.088	5.148	-.574	**			
	36	50.0	-.452	1.037	1.952	-.263	**			
	37	60.0	-.216	.922	1.204	.226	**			
	38	70.0	.023	.810	.772	.076	**			
	39	80.0	.186	.734	.757	.150	**			
	40	90.0	.286	.687	.418	.068	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 2 ** RE	IM
Cz	UPPER	.454	1.281	-.176
Cz	LOWER	-.123	.748	-.070
Cz	TOTAL	.332	2.029	-.245
Cm	UPPER	.017	.030	.060
Cm	LOWER	-.002	.114	.016
Cm	TOTAL	.015	.144	.076

*** LANN *** RUN 72 ***

TABLE 9.14 (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.800	.421			**			
2		.5	.155	.749			**			
3		1.5	-.491	1.056	-4.786	.648	**			
4		3.0	-.759	1.200	-5.876	.514	**			
5		5.0	-.884	1.272	-5.215	.008	**			
6		7.5	-1.034	1.366			**			
7		10.0	-1.037	1.368	-3.434	.285	**	-4.710	.565	307
8		15.0	-1.050	1.377	-5.022	.459	**			
9		20.0	-1.036	1.367	-5.187	.466	**	-4.513	.573	309
10		25.0	-1.019	1.356	-5.948	.680	**			
		30.0					**			
12		35.0	-.722	1.179	-51.15	9.538	**			
13		40.0	-.458	1.040	-14.21	-.997	**	-11.11	.415	313
14		45.0	-.395	1.009	-.987	-1.671	**			
15		50.0	-.373	.998	2.245	-2.021	**	2.366	-1.546	315
16		55.0	-.343	.983	2.961	-1.621	**			
17		60.0	-.317	.970	2.241	-1.281	**	2.303	-1.082	317
18		65.0	-.278	.952	1.831	-.930	**			
19		70.0	-.230	.929	1.309	-.782	**	1.256	-.603	319
20		75.0	-.172	.901	.775	-.588	**			
21		80.0	-.112	.873	.567	-.408	**	.510	-.283	321
22		85.0	-.050	.844			**			
23		90.0	.020	.811	.272	-.363	**	.215	-.158	323
24		95.0	.102	.773			**			
	25	.5	.699	.479			**			
	26	1.5	.374	.645	5.112	-.612	**			
	27	3.0	.260	.699	5.821	.498	**			
		5.0					**			
	29	7.5	.049	.798			**			
	30	10.0	-.029	.834	3.466	-.588	**			
		15.0					**			
	32	20.0	-.272	.949	4.888	-.380	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.417	1.020	2.457	.006	**			
	37	60.0	-.191	.910	1.071	.039	**			
	38	70.0	.038	.803	.811	-.024	**			
	39	80.0	.199	.728	.971	.100	**			
	40	90.0	.299	.681	.583	.077	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.466	1.744	-.092
Cz	LOWER	-.084	.778	-.034
Cz	TOTAL	.383	2.522	-.126
Cm	UPPER	.018	.036	.089
Cm	LOWER	.006	.097	.011
Cm	TOTAL	.024	.133	.100

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RC	Cp IM	NR.
1		0.0	.841	.396			**			
2		.5	.220	.718			**			
3		1.5	-.387	1.005	-7.154	.321	**			
4		3.0	-.692	1.162	-4.746	.429	**			
5		5.0	-.856	1.255	-3.861	.268	**	-5.123	.587	405
6		7.5	-.946	1.310			**			
7		10.0					**	-4.925	.689	407
8		15.0	-.967	1.323	-5.379	.061	**			
9		20.0	-.985	1.335	-4.862	.265	**	-5.112	.624	409
10		25.0	-.979	1.330	-6.437	.402	**			
		30.0					**			
12		35.0	-.901	1.282	-22.53	2.968	**			
13		40.0	-.533	1.078	-33.99	.914	**	-33.48	3.394	413
14		45.0	-.399	1.011	-5.181	-1.906	**			
15		50.0	-.372	.997	3.172	-1.893	**	3.168	-1.643	415
16		55.0	-.359	.991	4.948	-2.134	**			
17		60.0	-.340	.981	4.439	-1.400	**	4.244	-1.316	417
		65.0					**			
19		70.0	-.272	.949	2.256	-.616	**			
20		75.0	-.242	.934	2.112	-.310	**			
21		80.0	-.147	.898	.957	-.331	**	1.255	-.335	421
22		85.0	-.059	.848			**			
23		90.0	.016	.813	.346	-.225	**			
24		95.0	.092	.778			**			
	25	.5	.639	.512			**			
	26	1.5	.276	.692	5.722	-.672	**			
	27	3.0	.157	.747	5.214	-.454	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.170	.900	4.341	-.498	**			
	32	20.0	-.282	.954	5.275	-.329	**			
	33	25.0	-.363	.993			**			
		30.0					**			
	35	40.0	-.485	1.054	4.652	-.141	**			
	36	50.0	-.400	1.011	2.247	-.091	**			
	37	60.0	-.152	.892	1.175	.101	**			
	38	70.0	.061	.792	.802	.037	**			
	39	80.0	.226	.715	1.041	.110	**			
	40	90.0	.310	.676	.717	.092	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.477	1.319	.046
Cz	LOWER	-.100	.888	-.039
Cz	TOTAL	.377	2.207	.006
Cm	UPPER	.028	-.082	.098
Cm	LOWER	.010	.111	.017
Cm	TOTAL	.037	.029	.115

*** L.ANN *** RUN 72 ***

TABLE 9.14 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.846	.393			**			
2		.5	.306	.678			**			
3		1.5	-.251	.939	-6.831	.377	**			
4		3.0	-.533	1.078	-5.072	.940	**			
5		5.0	-.676	1.154	-8.641	.555	**	-7.681	.561	505
6		7.5	-.752	1.195			**			
7		10.0	-.823	1.236	-3.835	.835	**			
		15.0					**			
9		20.0	-.829	1.239	-8.029	.724	**			
10		25.0	-.834	1.242	-5.063	.238	**			
11		30.0	-.862	1.259	-7.216	.663	**			
		35.0					**			
13		40.0	-.549	1.086	-41.05	3.060	**			
14		45.0	-.412	1.017	1.214	-2.749	**			
15		50.0	-.401	1.012	8.591	-2.435	**			
16		55.0	-.395	1.009	7.576	-1.728	**			
17		60.0	-.377	1.000	5.131	-1.117	**			
18		65.0	-.357	.990	3.109	-.606	**			
19		70.0	-.323	.974	1.986	-.282	**	2.059	-.312	519
20		75.0	-.286	.955	.794	-.416	**			
21		80.0	-.207	.918	.614	-.202	**			
22		85.0	-.093	.864			**			
23		90.0	-.005	.823	.068	-.131	**			
24		95.0	.088	.779			**			
	25	.5	.570	.548			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	-.140	.886	4.734	-1.103	**			
		15.0					**			
	32	20.0	-.307	.965	6.142	-.321	**			
		25.0					**			
	34	30.0	-.413	1.017	4.602	-.930	**			
		40.0					**			
	36	50.0	-.401	1.011	1.771	-.266	**			
		60.0					**			
		70.0					**			
	39	80.0	.232	.712	.982	.011	**			
	40	90.0	.316	.673	.710	-.073	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.442	1.220	.014
Cz	LOWER	-.098	.798	-.115
Cz	TOTAL	.344	2.019	-.101
Cm	UPPER	.040	-.145	.087
Cm	LOWER	.007	.136	-.008
Cm	TOTAL	.047	-.009	.079

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.835	.400			**			
		.5					**			
3		1.5	-.049	.844			**			
		3.0					**			
5		5.0	-.514	1.068	-8.047	.402	**			
		7.5					**			
7		10.0	-.718	1.177	-3.853	.216	**			
8		15.0	-.684	1.158	-9.818	1.313	**			
9		20.0	-.768	1.204			**			
10		25.0	-.795	1.220	-6.390	.732	**			
11		30.0	-.386	1.004			**			
12		35.0	-.462	1.042	-29.35	-.745	**			
13		40.0	-.326	.975	6.272	-1.018	**			
14		45.0	-.352	.988	8.238	-.777	**			
15		50.0	-.363	.993	4.537	-.474	**			
16		55.0	-.357	.990	1.985	-.393	**			
17		60.0	-.343	.983	.841	-.037	**			
18		65.0	-.338	.980	.212	-.106	**			
19		70.0	-.323	.973	-.146	.022	**			
20		75.0	-.285	.955	-.120	.164	**			
21		80.0	-.214	.921	-.671	.127	**			
22		85.0	-.086	.861			**			
23		90.0	.025	.809	-.790	-.050	**			
24		95.0	.110	.769			**			
	25	.5	.398	.634			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.307	.965	5.626	-.553	**			
		20.0					**			
	33	25.0	-.404	1.013			**			
	34	30.0	-.408	1.015	2.544	-.173	**			
	35	40.0	-.406	1.014	1.085	-.021	**			
	36	50.0	-.347	.970	.328	-.030	**			
		60.0					**			
		70.0					**			
	39	80.0	.235	.711	.045	.119	**			
	40	90.0	.300	.680	.253	.113	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.350	1.054	-.008
Cz	LOWER	-.094	.380	-.022
Cz	TOTAL	.256	1.433	-.030
Cm	UPPER	.036	-.103	.027
Cm	LOWER	.013	-.010	.016
Cm	TOTAL	.049	-.113	.044

*** LANN *** RUN 73 ***

TABLE 9.15a

TEST CONDITIONS		NORM. COEFF			MOM. COEFF.			DISPLACEMENTS REL.TO LVDT		VIBRATION MODE		
		Cz	Czi		Cm	Cmi		AMPL.(-)	PHASE (DEG)	**Y/(B/2)	HEAVE AT X=.224 M (MM)	PITCH (DEG)
			RE	IM		RE	IM					
RUNNR. = 73		SECT.1	.300	1.429 -.297	.014	.099	.082	LVDT	1.00 0.00	.000		
		SECT.2	.325	1.981 -.572	.015	.128	.093	CALC. 1	1.13 1.52	.100		
ALFA = .59	(DEG)	SECT.3	.377	2.494 -.465	.023	.131	.097	ACC. 2	.37 -.33	.100	.01	.23
MACH = .822		SECT.4	.371	2.592 -.147	.037	.077	.140	ACC. 3	.55 -175.71	.100		
RE*10**-6= 5.43		SECT.5	.341	2.083 -.090	.047	-.041	.107	ACC. 4	.13 -139.19	.420		
Q =45.22	(KPA)	SECT.6	.255	1.340 .024	.049	-.162	.030	ACC. 5	.85 -175.73	.420	.05	.24
P-SETTL. =149.1	(KPA)							ACC. 6	1.52 -175.55	.420		
T-SETTL. =26.00		WING	.320	1.889 -.296	.037	.453	.156	ACC. 7	1.52 -170.87	.700		
					(WING	CM ABOUT		CALC. 8	2.01 -174.98	.700	.24	.23
DALFA = .250	(DEG)				AERODYN. CENTER)			CALC. 9	2.50 -175.03	.700		
FREQ. =24.00	(Hz)							CALC.10	2.61 -173.58	.920		
REDFR. = .076								ACC.11	2.98 -174.16	.920	.36	.22
HARM. = 1								ACC.12	3.35 -174.61	.920		

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.743	.455			**			
2		.5	.128	.762			**			
3		1.5	-.500	1.063	-3.845	.974	**			
4		3.0	-.870	1.265	-6.380	1.912	**			
5		5.0	-.888	1.276			**	-6.142	1.929	105
6		7.5	-1.045	1.376			**			
7		10.0	-1.065	1.389	-4.034	1.197	**			
8		15.0	-.969	1.326	-9.239	4.004	**			
9		20.0	-.620	1.125	-5.258	2.427	**			
10		25.0	-.606	1.117	-2.512	1.003	**			
11		30.0	-.585	1.106	-3.414	1.534	**			
12		35.0	-.579	1.103			**			
13		40.0	-.591	1.110	-2.899	1.567	**			
14		45.0	-.568	1.098	-8.638	4.836	**			
15		50.0	-.431	1.028	-2.773	-1.001	**			
16		55.0	-.386	1.005	-.694	-1.513	**			
17		60.0	-.345	.985	-.655	-.913	**			
18		65.0	-.289	.958	-.769	-.814	**			
19		70.0	-.226	.928	-.545	-.511	**	-.379	-.678	119
20		75.0	-.171	.902	-.382	-.357	**			
21		80.0	-.110	.873	-.230	-.220	**			
22		85.0	-.033	.837			**			
23		90.0	.027	.809	-.147	-.163	**			
24		95.0	.101	.775			**			
	25	.5	.703	.478			**			
	26	1.5	.368	.649	3.781	-.242	**			
	27	3.0	.306	.678	4.488	.202	**			
	28	5.0	.221	.718	5.029	-.454	**			
	29	7.5	.076	.786			**			
		10.0					**			
	31	15.0	-.099	.868	2.788	-.713	**			
	32	20.0	-.239	.934	4.414	-.600	**			
	33	25.0	-.333	.980			**			
	34	30.0	-.454	1.039	2.426	-.644	**			
	35	40.0	-.508	1.067	2.240	-.991	**			
	36	50.0	-.491	1.058	1.144	.145	**			
	37	60.0	-.250	.939	.949	.278	**			
	38	70.0	-.003	.823	.762	.150	**			
	39	80.0	.167	.744	.531	.123	**			
	40	90.0	.277	.692	.509	.162	**			

OVERALL COEFFICIENTS		STEADY	SECTION 1 RE	IM
Cz	UPPER	.424	.854	-.232
Cz	LOWER	-.124	.575	-.065
Cz	TOTAL	.300	1.429	-.297
Cm	UPPER	.021	.045	.060
Cm	LOWER	-.007	.054	.021
Cm	TOTAL	.014	.099	.082

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.774	.437			**			
2		.5	.168	.743			**			
3		1.5	-.489	1.057	-6.240	1.177	**			
4		3.0	-.792	1.220	-6.242	1.958	**			
5		5.0	-.913	1.291	-6.733	1.297	**			
6		7.5	-1.055	1.382			**			
7		10.0	-1.084	1.402	-2.500	.930	**			
8		15.0	-1.049	1.379	-4.612	1.744	**			
9		20.0	-1.018	1.358	-7.080	3.242	**			
10		25.0	-.864	1.262	-27.14	17.045	**			
11		30.0	-.645	1.139	-7.844	3.807	**			
12		35.0	-.588	1.108	-6.198	3.244	**			
13		40.0	-.488	1.057	-9.459	2.340	**			
14		45.0	-.431	1.028			**			
15		50.0	-.415	1.020	-.105	-1.798	**			
16		55.0	-.370	.997	-.375	-1.430	**			
17		60.0	-.328	.977	-.246	-1.113	**			
18		65.0	-.286	.957	-.020	-1.000	**			
19		70.0	-.223	.926	-.014	-.763	**			
20		75.0	-.161	.897	-.154	-.517	**			
21		80.0	-.107	.871	-.203	-.281	**			
22		85.0	-.038	.839			**			
23		90.0	.031	.807	-.070	-.200	**			
24		95.0	.106	.772			**			
	25	.5	.701	.479			**			
	26	1.5	.369	.648	5.005	.075	**			
	27	3.0	.272	.694			**			
	28	5.0	.162	.746	2.606	-.925	**			
	29	7.5	.068	.790			**			
	30	10.0	.018	.813	2.868	-.600	**			
	31	15.0	-.127	.881	3.093	-.819	**			
	32	20.0	-.267	.948	4.661	-.661	**			
	33	25.0	-.362	.993			**			
	34	30.0	-.469	1.047	2.071	-.803	**			
	35	40.0	-.554	1.091	4.405	-1.278	**			
	36	50.0	-.450	1.038	1.185	-.134	**			
	37	60.0	-.214	.922	1.103	.240	**			
	38	70.0	.024	.811	.661	.270	**			
	39	80.0	.185	.735	.555	.128	**			
	40	90.0	.287	.687	.531	.162	**			

OVERALL COEFFICIENTS		STEADY	SECTION 2 RE	IM
Cz	UPPER	.448	1.332	-.476
Cz	LOWER	-.123	.648	-.097
Cz	TOTAL	.325	1.981	-.572
Cm	UPPER	.017	.042	.073
Cm	LOWER	-.002	.086	.020
Cm	TOTAL	.015	.128	.093

*** L...ANN *** RUN 73 *** TABLE 9.15a (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.797	.424			**			
2		.5	.155	.749			**			
3		1.5	-.491	1.058	-4.767	.915	**			
4		3.0	-.757	1.200	-6.496	1.365	**			
5		5.0	-.884	1.274	-6.490	1.048	**			
6		7.5	-1.034	1.368			**			
7		10.0	-1.036	1.370	-3.839	.692	** -4.666	1.276	307	
8		15.0	-1.048	1.378	-5.244	.897	**			
9		20.0	-1.034	1.369	-5.233	1.376	** -4.519	1.287	309	
10		25.0	-1.015	1.356	-6.677	1.915	**			
		30.0					**			
12		35.0	-.663	1.148	-46.21	23.813	**			
13		40.0	-.452	1.038	-13.10	2.223	** -11.36	1.787	313	
14		45.0	-.397	1.011	-2.309	-2.191	**			
15		50.0	-.372	.999	1.152	-2.545	** 1.717	-3.171	315	
16		55.0	-.342	.984	2.153	-2.914	**			
17		60.0	-.317	.972	1.695	-2.116	** 1.980	-2.250	317	
18		65.0	-.279	.953	1.475	-1.962	**			
19		70.0	-.229	.930	1.128	-1.175	** 1.137	-1.215	319	
20		75.0	-.172	.902	.752	-.827	**			
21		80.0	-.112	.874	.238	-.465	** .508	-.482	321	
22		85.0	-.050	.845			**			
23		90.0	.020	.812	.218	-.246	** .212	-.251	323	
24		95.0	.101	.775			**			
	25	.5	.698	.481			**			
	26	1.5	.373	.646	5.474	.575	**			
	27	3.0	.258	.701	7.114	1.410	**			
		5.0					**			
	29	7.5	.048	.799			**			
	30	10.0	-.030	.835	2.922	-.579	**			
		15.0					**			
	32	20.0	-.273	.951	5.293	-.286	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.416	1.020	1.764	.249	**			
	37	60.0	-.191	.911	1.193	.121	**			
	38	70.0	.038	.804	.758	.141	**			
	39	80.0	.198	.729	.734	.173	**			
	40	90.0	.300	.681	.756	.153	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.461	1.733	-.485
Cz	LOWER	-.084	.762	.320
Cz	TOTAL	.377	2.494	-.465
Cm	UPPER	.018	.051	.076
Cm	LOWER	.006	.079	.021
Cm	TOTAL	.023	.131	.097

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.839	.399			**			
2		.5	.220	.719			**			
3		1.5	-.386	1.005	-7.913	.551	**			
4		3.0	-.689	1.162	-5.572	.597	**			
5		5.0	-.856	1.257	-4.940	.333	** -5.295	1.227	405	
6		7.5	-.946	1.312			**			
7		10.0					** -5.226	1.411	407	
8		15.0	-.965	1.324	-6.666	.572	**			
9		20.0	-.983	1.336	-5.795	.740	** -5.218	1.276	409	
10		25.0	-.975	1.330	-7.471	1.104	**			
		30.0					**			
12		35.0	-.854	1.256	-33.87	9.442	**			
13		40.0	-.510	1.068	-32.24	7.776	** -33.16	8.471	413	
14		45.0	-.403	1.014	-7.118	-1.607	**			
15		50.0	-.371	.998	1.961	-3.199	** 2.748	-3.404	415	
16		55.0	-.360	.993	3.779	-3.707	**			
17		60.0	-.341	.983	3.886	-2.458	** 4.087	-2.813	417	
		65.0					**			
19		70.0	-.271	.950	2.178	-1.232	**			
20		75.0	-.241	.935	2.157	-.855	**			
21		80.0	-.147	.890	.820	-.472	** 1.306	-.667	421	
22		85.0	-.059	.849			**			
23		90.0	.017	.814	.158	-.089	**			
24		95.0	.091	.779			**			
	25	.5	.638	.513			**			
	26	1.5	.276	.693	5.754	.889	**			
	27	3.0	.157	.748	5.397	.522	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.171	.902	4.383	-.465	**			
	32	20.0	-.284	.956	5.544	-.201	**			
	33	25.0	-.364	.994			**			
		30.0					**			
	35	40.0	-.485	1.055	3.867	-.233	**			
	36	50.0	-.398	1.011	1.943	.089	**			
	37	60.0	-.151	.892	1.228	.474	**			
	38	70.0	.062	.793	.783	.306	**			
	39	80.0	.225	.717	.700	.218	**			
	40	90.0	.311	.676	.708	.251	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.471	1.745	-.175
Cz	LOWER	-.100	.847	.028
Cz	TOTAL	.371	2.592	-.147
Cm	UPPER	.027	-.007	.108
Cm	LOWER	.010	.084	.033
Cm	TOTAL	.037	.077	.140

*** LANN *** RUN 73 *** TABLE 9.15a (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.843	.396			**			
2		.5	.307	.678			**			
3		1.5	-.251	.940	-7.598	.092	**			
4		3.0	-.531	1.079	-6.074	.861	**			
5		5.0	-.676	1.155	-10.49	1.207	**	-8.189	1.382	505
6		7.5	-.751	1.196			**			
7		10.0	-.823	1.238	-5.059	.670	**			
		15.0					**			
9		20.0	-.827	1.240	-9.075	1.041	**			
10		25.0	-.830	1.242	-5.761	.655	**			
11		30.0	-.856	1.257	-8.904	1.080	**			
		35.0					**			
13		40.0	-.523	1.074	-37.22	7.446	**			
14		45.0	-.417	1.021	-1.345	-3.325	**			
15		50.0	-.399	1.012	6.811	-4.124	**			
16		55.0	-.397	1.011	6.366	-3.124	**			
17		60.0	-.379	1.002	4.280	-1.821	**			
18		65.0	-.357	.991	2.874	-1.122	**			
19		70.0	-.323	.974	2.043	-.365	**	2.217	-.584	519
20		75.0	-.285	.956	.712	-.038	**			
21		80.0	-.206	.919	.318	.016	**			
22		85.0	-.093	.865			**			
23		90.0	-.004	.823	-.146	.206	**			
24		95.0	.088	.781			**			
	25	.5	.569	.549			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	-.141	.887	4.790	-.908	**			
		15.0					**			
	32	20.0	-.308	.967	6.352	-.293	**			
		25.0					**			
	34	30.0	-.415	1.020	4.002	-.310	**			
		40.0					**			
	36	50.0	-.399	1.012	1.228	.110	**			
		60.0					**			
		70.0					**			
	39	80.0	.231	.714	.550	.127	**			
	40	90.0	.317	.673	.562	.173	**			

OVERALL COEFFICIENTS		STEADY	SECTION 5 RE	IM
Cz	UPPER	.439	1.386	-.059
Cz	LOWER	-.098	.696	-.031
Cz	TOTAL	.341	2.083	-.090
Cm	UPPER	.039	-.116	.080
Cm	LOWER	.007	.075	.028
Cm	TOTAL	.047	-.041	.107

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.832	.403			**			
		.5					**			
3		1.5	-.050	.845			**			
		3.0					**			
5		5.0	-.512	1.069	-9.074	.464	**			
		7.5					**			
7		10.0	-.718	1.178	-4.065	.121	**			
8		15.0	-.682	1.159	-10.28	.906	**			
9		20.0	-.763	1.203			**			
10		25.0	-.788	1.217	-6.810	.543	**			
11		30.0	-.424	1.024			**			
12		35.0	-.431	1.028	-22.73	.623	**			
13		40.0	-.330	.978	7.840	-1.931	**			
14		45.0	-.348	.987	8.389	-1.718	**			
15		50.0	-.362	.993	4.430	-.901	**			
16		55.0	-.357	.991	1.924	-.381	**			
17		60.0	-.343	.984	.861	-.169	**			
18		65.0	-.338	.982	.540	-.175	**			
19		70.0	-.322	.974	.176	.235	**			
20		75.0	-.285	.956	-.227	.175	**			
21		80.0	-.213	.922	-.609	.363	**			
22		85.0	-.085	.861			**			
23		90.0	.025	.810	-.699	.157	**			
24		95.0	.109	.771			**			
	25	.5	.397	.635			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.309	.968	6.550	.026	**			
		20.0					**			
	33	25.0	-.406	1.015			**			
	34	30.0	-.410	1.018	2.621	.245	**			
	35	40.0	-.406	1.015	1.105	-.057	**			
	36	50.0	-.315	.971	.485	.093	**			
		60.0					**			
		70.0					**			
	39	80.0	.233	.713	.117	.098	**			
	40	90.0	.300	.681	.313	.066	**			

OVERALL COEFFICIENTS		STEADY	SECTION 6 RE	IM
Cz	UPPER	.350	.908	-.001
Cz	LOWER	-.094	.433	.025
Cz	TOTAL	.255	1.340	.024
Cm	UPPER	.036	-.158	.018
Cm	LOWER	.013	-.004	.011
Cm	TOTAL	.049	-.162	.030

*** LANN *** RUN 74 ***

TABLE 9.15b

TEST CONDITIONS		NORM. COEFF. Cz RE	NORM. COEFF. Czi IM	MOM. COEFF. Cm RE	MOM. COEFF. Cmi IM	DISPLACEMENTS REL.TO LVDT AMPL.(-)	DISPLACEMENTS REL.TO LVDT PHASE (DEG)	VIBRATION MODE **Y/(B/2)	HEAVE AT X=.224 M (MM)	PITCH (DEG)
RUNNR. = 74		SECT.1 .302	.009	-.079	.014 .012 .000	LVDT	1.00	0.00	** .000	
		SECT.2 .329	.071	-.105	.015 -.005 .005	CALC. 1	3.49	-9.64	** .100	
ALFA = .59 (DEG)		SECT.3 .377	.068	-.001	.023 .015 -.005	ACC. 2	1.98	-7.25	** .100	.01 .01
MACH = .821		SECT.4 .372	.176	-.254	.037 .017 -.030	ACC. 3	.23	-315.07	** .100	
RE*10**-6= 5.43		SECT.5 .341	-.043	.188	.047 .016 .018	ACC. 4	6.51	-55.74	** .420	
Q =45.17 (KPA)		SECT.6 .258	-.050	.103	.050 -.015 .002	ACC. 5	1.75	21.70	** .420	.05 .02
P-SETTL. =149.0 (KPA)						ACC. 6	.58	-200.88	** .420	
T-SETTL. =26.00		WING .322	.045	-.056	.036 .023 .036	ACC. 7	1.15	-255.66	** .700	
					(WING : CM ABOUT	CALC. 8	2.28	-308.50	** .700	.04 .01
DALFA = .250 (DEG)					AERODYN. CENTER)	CALC. 9	.77	-246.89	** .700	
FREQ. =24.00 (Hz)						CALC.10	4.92	-296.30	** .920	
REDFR. = .076						ACC.11	3.20	-294.41	** .920	.11 .02
HARM. = 2						ACC.12	1.46	-287.96	** .920	

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.744	.454			**			
2		.5	.126	.762			**			
3		1.5	-.502	1.063	.045	.373	**			
4		3.0	-.871	1.265	1.093	.070	**			
5		5.0	-.889	1.276			**	-.088	.103	105
6		7.5	-1.045	1.375			**			
7		10.0	-1.065	1.308	.515	.221	**			
8		15.0	-.972	1.327	-.344	2.548	**			
9		20.0	-.622	1.125	.185	.368	**			
10		25.0	-.613	1.121	.103	.521	**			
11		30.0	-.609	1.118	.017	.492	**			
12		35.0	-.588	1.107			**			
13		40.0	-.584	1.105	-.101	.590	**			
14		45.0	-.561	1.093	-1.146	1.850	**			
15		50.0	-.429	1.026	.622	-.849	**			
16		55.0	-.387	1.005	.287	.206	**			
17		60.0	-.346	.985	.430	.305	**			
18		65.0	-.289	.957	.162	.222	**			
19		70.0	-.227	.928	.274	.193	**	.047	.014	119
20		75.0	-.171	.901	.163	.203	**			
21		80.0	-.109	.872	.219	-.060	**			
22		85.0	-.033	.836			**			
23		90.0	.026	.809	.244	.010	**			
24		95.0	.100	.774			**			
	25	.5	.704	.477			**			
	26	1.5	.368	.648	-.075	.493	**			
	27	3.0	.306	.678	.657	-.210	**			
	28	5.0	.221	.718	.085	.073	**			
	29	7.5	.076	.786			**			
		10.0					**			
	31	15.0	-.099	.867	-.147	.022	**			
	32	20.0	-.239	.933	.216	.165	**			
	33	25.0	-.334	.979			**			
	34	30.0	-.453	1.038	.217	.359	**			
	35	40.0	-.504	1.064	.200	.406	**			
	36	50.0	-.495	1.059	.160	.132	**			
	37	60.0	-.251	.939	.144	.105	**			
	38	70.0	-.003	.823	.131	.069	**			
	39	80.0	.168	.743	.217	-.010	**			
	40	90.0	.277	.692	.385	.022	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 1 ** RE	IM
Cz	UPPER	.426	-.045	-.125
Cz	LOWER	-.124	.054	.045
Cz	TOTAL	.302	.009	-.079
Cm	UPPER	.021	-.022	-.010
Cm	LOWER	-.007	.034	.011
Cm	TOTAL	.014	.012	.000

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.776	.436			**			
2		.5	.167	.743			**			
3		1.5	-.491	1.057	-.780	-.607	**			
4		3.0	-.793	1.220	-.482	-.456	**			
5		5.0	-.913	1.291	-1.568	.198	**			
6		7.5	-1.055	1.381			**			
7		10.0	-1.003	1.401	-.280	-.755	**			
8		15.0	-1.050	1.378	-.398	-.145	**			
9		20.0	-1.018	1.357	-.230	-.416	**			
10		25.0	-.894	1.279	-1.144	9.170	**			
11		30.0	-.666	1.149	-.477	-1.052	**			
12		35.0	-.599	1.113	-.771	.803	**			
13		40.0	-.487	1.055	-.961	-1.928	**			
14		45.0	-.432	1.028			**			
15		50.0	-.416	1.019	.355	-.055	**			
16		55.0	-.372	.998	-.117	.019	**			
17		60.0	-.328	.976	.116	-.020	**			
18		65.0	-.286	.956	-.095	.133	**			
19		70.0	-.223	.926	-.129	-.091	**			
20		75.0	-.161	.896	0.000	0.000	**			
21		80.0	-.107	.871	-.027	-.102	**			
22		85.0	-.038	.839			**			
23		90.0	.030	.807	.092	-.040	**			
24		95.0	.106	.772			**			
	25	.5	.702	.478			**			
	26	1.5	.369	.648	-.398	.130	**			
	27	3.0	.273	.694			**			
	28	5.0	.162	.746	-.091	-.077	**			
	29	7.5	.069	.789			**			
	30	10.0	.019	.812	-.107	.013	**			
	31	15.0	-.127	.881	-.302	.045	**			
	32	20.0	-.267	.947	-.209	-.161	**			
	33	25.0	-.361	.993			**			
	34	30.0	-.467	1.045	-.196	-.170	**			
	35	40.0	-.546	1.085	-.027	-.661	**			
	36	50.0	-.454	1.038	-.150	-.119	**			
	37	60.0	-.215	.922	-.135	-.097	**			
	38	70.0	.023	.810	-.063	.122	**			
	39	80.0	.186	.734	.077	-.043	**			
	40	90.0	.287	.687	-.009	.115	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 2 ** RE	IM
Cz	UPPER	.451	.103	-.075
Cz	LOWER	-.122	-.032	-.030
Cz	TOTAL	.329	.071	-.105
Cm	UPPER	.017	-.003	.009
Cm	LOWER	-.002	-.002	-.004
Cm	TOTAL	.015	-.005	.005

*** L.ANN *** RUN 74 ***

TABLE 9.15b (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.799	.423			**			
2		.5	.155	.749			**			
3		1.5	-.492	1.058	-.408	.052	**			
4		3.0	-.759	1.200	0.000	0.000	**			
5		5.0	-.884	1.273	0.000	0.000	**			
6		7.5	-1.034	1.367			**			
7		10.0	-1.037	1.369	1.137	-.963	**	.366	-.754	307
8		15.0	-1.049	1.378	-.305	-.688	**			
9		20.0	-1.034	1.368	-.418	-.135	**	-.115	.183	309
10		25.0	-1.017	1.356	-.553	.623	**			
		30.0					**			
12		35.0	-.673	1.153	-3.611	2.951	**			
13		40.0	-.448	1.036	-.190	-3.301	**	.468	-2.576	313
14		45.0	-.396	1.010	.184	-1.554	**			
15		50.0	-.374	.999	.438	.074	**	.214	-.336	315
16		55.0	-.343	.984	-.094	.299	**			
17		60.0	-.316	.971	.065	.408	**	.100	.127	317
18		65.0	-.278	.952	-.091	.290	**			
19		70.0	-.229	.929	-.109	.153	**	.053	.114	319
20		75.0	-.172	.902	.026	.126	**			
21		80.0	-.111	.873	.030	.121	**	.042	.056	321
22		85.0	-.050	.844			**			
23		90.0	.020	.812	-.108	.043	**	.027	.025	323
24		95.0	.101	.774			**			
	25	.5	.699	.480			**			
	26	1.5	.373	.646	0.000	0.000	**			
	27	3.0	.258	.700	.992	-.313	**			
		5.0					**			
	29	7.5	.049	.798			**			
	30	10.0	-.029	.835	-.124	.160	**			
		15.0					**			
	32	20.0	-.274	.950	-.252	-.194	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.419	1.021	-.320	.208	**			
	37	60.0	-.192	.911	-.023	-.141	**			
	38	70.0	.038	.803	-.077	.140	**			
	39	80.0	.199	.728	0.000	0.000	**			
	40	90.0	.300	.681	.195	.103	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.462	.095	-.006
Cz	LOWER	-.085	-.027	.005
Cz	TOTAL	.377	.068	-.001
Cm	UPPER	.018	.020	-.015
Cm	LOWER	.005	-.005	.010
Cm	TOTAL	.023	.015	-.005

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.840	.397			**			
2		.5	.218	.719			**			
3		1.5	-.388	1.006	0.000	0.000	**			
4		3.0	-.690	1.162	0.000	0.000	**			
5		5.0	-.856	1.256	0.000	0.000	**	-.062	.028	405
6		7.5	-.946	1.311			**			
7		10.0					**	-.199	.316	407
8		15.0	-.966	1.323	-.004	1.370	**			
9		20.0	-.983	1.334	0.000	0.000	**	.021	-.059	409
10		25.0	-.977	1.330	-.567	.847	**			
		30.0					**			
12		35.0	-.867	1.263	-8.042	11.465	**			
13		40.0	-.501	1.062	.088	-4.377	**	3.529	-7.923	413
14		45.0	-.401	1.012	1.218	-3.196	**			
15		50.0	-.373	.998	.919	-.258	**	.604	-1.174	415
16		55.0	-.359	.992	.172	.337	**			
17		60.0	-.339	.982	-.296	.405	**	.121	.197	417
		65.0					**			
19		70.0	-.271	.949	-.060	.358	**			
20		75.0	-.241	.934	.035	.223	**			
21		80.0	-.147	.890	.253	.163	**	.024	.178	421
22		85.0	-.059	.848			**			
23		90.0	.016	.813	.032	.090	**			
24		95.0	.091	.778			**			
	25	.5	.639	.512			**			
	26	1.5	.274	.673	.205	-.065	**			
	27	3.0	.157	.748	.220	-.067	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.171	.901	0.000	0.000	**			
	32	20.0	-.284	.955	-.024	-.195	**			
	33	25.0	-.363	.994			**			
		30.0					**			
	35	40.0	-.481	1.052	-.183	-.160	**			
	36	50.0	-.401	1.012	0.000	0.000	**			
	37	60.0	-.152	.892	.094	-.136	**			
	38	70.0	.061	.792	0.000	0.000	**			
	39	80.0	.226	.716	.075	-.037	**			
	40	90.0	.311	.676	.112	.022	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.472	.171	-.232
Cz	LOWER	-.100	.005	-.022
Cz	TOTAL	.372	.176	-.254
Cm	UPPER	.027	.012	-.026
Cm	LOWER	.010	.005	-.004
Cm	TOTAL	.037	.017	-.030

*** LANN *** RUN 74 ***

TABLE 9.15b (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.844	.395			**			
2		.5	.306	.678			**			
3		1.5	-.252	.940	-.317	.063	**			
4		3.0	-.532	1.078	-.396	.045	**			
5		5.0	-.677	1.155	-.426	.487	**	.159	.251	505
6		7.5	-.751	1.196			**			
7		10.0	-.823	1.237	1.674	-1.491	**			
		15.0					**			
9		20.0	-.827	1.239	.630	-1.064	**			
10		25.0	-.834	1.243	-.668	-.132	**			
11		30.0	-.859	1.258	-.797	.805	**			
		35.0					**			
13		40.0	-.513	1.069	.699	-6.368	**			
14		45.0	-.415	1.019	2.052	-3.551	**			
15		50.0	-.406	1.015	-.057	.757	**			
16		55.0	-.396	1.010	-.236	.476	**			
17		60.0	-.376	1.000	-.467	.783	**			
18		65.0	-.355	.990	-.356	.477	**			
19		70.0	-.323	.974	-.346	.469	**	-.123	.435	519
20		75.0	-.285	.956	-.247	.174	**			
21		80.0	-.206	.918	.021	.127	**			
22		85.0	-.093	.865			**			
23		90.0	-.004	.823	-.103	.031	**			
24		95.0	.088	.780			**			
	25	.5	.570	.548			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	-.140	.887	0.000	0.000	**			
		15.0					**			
	32	20.0	-.308	.967	.204	-.260	**			
		25.0					**			
	34	30.0	-.412	1.018	-.019	-.222	**			
		40.0					**			
	36	50.0	-.402	1.013	-.328	.212	**			
		60.0					**			
		70.0					**			
	39	80.0	.232	.713	.173	-.077	**			
	40	90.0	.317	.673	.046	.077	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.439	-.035	.192
Cz	LOWER	-.098	-.008	-.005
Cz	TOTAL	.341	-.043	.188
Cm	UPPER	.039	.019	.010
Cm	LOWER	.007	-.003	.007
Cm	TOTAL	.047	.016	.018

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.834	.401			**			
		.5					**			
3		1.5	-.050	.844			**			
		3.0					**			
5		5.0	-.512	1.068	-1.231	.581	**			
		7.5					**			
7		10.0	-.717	1.177	-.480	-.686	**			
8		15.0	-.684	1.158	1.081	-1.603	**			
9		20.0	-.759	1.200			**			
10		25.0	-.792	1.219	-.454	.314	**			
11		30.0	-.456	1.040			**			
12		35.0	-.439	1.031	2.474	-4.720	**			
13		40.0	-.330	.977	1.439	-.191	**			
14		45.0	-.352	.988	-.630	.817	**			
15		50.0	-.365	.995	-.447	.783	**			
16		55.0	-.357	.991	.045	.352	**			
17		60.0	-.342	.983	.023	.171	**			
18		65.0	-.338	.981	.167	-.023	**			
19		70.0	-.323	.974	-.324	.046	**			
20		75.0	-.285	.955	-.023	-.158	**			
21		80.0	-.213	.921	.125	-.172	**			
22		85.0	-.085	.861			**			
23		90.0	.025	.809	-.112	.032	**			
24		95.0	.109	.770			**			
	25	.5	.398	.634			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.309	.967	-.285	.034	**			
		20.0					**			
	33	25.0	-.405	1.014			**			
	34	30.0	-.408	1.015	.229	-.273	**			
	35	40.0	-.404	1.014	0.000	0.000	**			
	36	50.0	-.318	.971	0.000	0.000	**			
		60.0					**			
		70.0					**			
	39	80.0	.235	.711	-.035	-.094	**			
	40	90.0	.300	.681	-.049	.131	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.352	-.042	.115
Cz	LOWER	-.094	-.009	-.012
Cz	TOTAL	.258	-.050	.103
Cm	UPPER	.036	-.014	.004
Cm	LOWER	.013	-.001	-.001
Cm	TOTAL	.050	-.015	.002

*** LANN *** RUN 75 *** TABLE 9.15c

TEST CONDITIONS		NORM. COEFF. Cz RE	NORM. COEFF. Czi IM	MOM. COEFF. Cm RE	MOM. COEFF. Cmi IM	DISPLACEMENTS REL.TO LVDT AMPL.(-)	DISPLACEMENTS REL.TO LVDT PHASE (DEG)	VIBRATION MODE **Y/(B/2) **	VIBRATION MODE HEAVE AT X=.224 M (MM)	VIBRATION MODE PITCH (DEG)
RUNNR. = 75		SECT.1 .299	.038	.020	.014	.018	-.002	LVDT	1.00	0.00	** .000		
		SECT.2 .327	-.074	-.035	.015	.021	.022	CALC. 1	12.37	13.78	** .100		
ALFA = .59	(DEG)	SECT.3 .376	.019	.136	.023	.031	.027	ACC. 2	5.86	7.95	** .100	.01	.02
MACH = .821		SECT.4 .371	-.014	-.086	.037	.002	-.031	ACC. 3	2.51	-134.51	** .100		
RE*10**-6= 5.43		SECT.5 .341	.053	.058	.047	-.007	.024	ACC. 4	21.10	.04	** .420		
Q =45.16	(KPA)	SECT.6 .259	-.034	-.013	.050	-.008	.031	ACC. 5	1.78	57.40	** .420	.08	.03
P-SETTL. =148.9	(KPA)							ACC. 6	4.24	-143.35	** .420		
T-SETTL. =26.00		WING .320	.006	.016	.037	.004	-.004	ACC. 7	6.96	41.04	** .700		
					(WING : CM ABOUT			CALC. 8	4.69	98.21	** .700	.07	.02
DALFA = .250	(DEG)				AERODYN. CENTER)			CALC. 9	3.10	-207.81	** .700		
FREQ. =24.00	(Hz)							CALC.10	9.96	87.92	** .920		
REDFR. = .076								ACC.11	8.79	91.56	** .920	.07	.01
HARM. = 3								ACC.12	7.66	96.35	** .920		

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.743	.455			**			
2		.5	.126	.763			**			
3		1.5	-.501	1.063	-.410	-.821	**			
4		3.0	-.868	1.264	-.651	-2.158	**			
5		5.0	-.886	1.275			**	-.036	.032	105
6		7.5	-1.044	1.375			**			
7		10.0	-1.064	1.388	-.169	-.769	**			
8		15.0	-.959	1.320	.391	1.154	**			
9		20.0	-.617	1.123	-.342	-.150	**			
10		25.0	-.595	1.112	-.226	-.022	**			
11		30.0	-.588	1.108	-.429	-.040	**			
12		35.0	-.581	1.104			**			
13		40.0	-.595	1.112	-.192	-.017	**			
14		45.0	-.548	1.087	-.157	-.372	**			
15		50.0	-.428	1.026	-.188	-.011	**			
16		55.0	-.387	1.006	-.621	-.108	**			
17		60.0	-.345	.985	-.168	.168	**			
18		65.0	-.288	.957	-.082	-.069	**			
19		70.0	-.227	.928	-.263	.048	**	-.053	.056	119
20		75.0	-.170	.901	-.202	.078	**			
21		80.0	-.110	.873	-.084	-.072	**			
22		85.0	-.033	.837			**			
23		90.0	.027	.809	-.069	-.055	**			
24		95.0	.100	.775			**			
	25	.5	.703	.478			**			
	26	1.5	.369	.648	-.381	-.457	**			
	27	3.0	.306	.678	-.192	-.236	**			
	28	5.0	.221	.718	-.213	.060	**			
	29	7.5	.075	.787			**			
		10.0					**			
	31	15.0	-.100	.868	-.232	-.020	**			
	32	20.0	-.239	.934	.049	-.271	**			
	33	25.0	-.331	.979			**			
	34	30.0	-.452	1.038	-.137	-.179	**			
	35	40.0	-.502	1.063	0.000	0.000	**			
	36	50.0	-.493	1.059	-.220	-.022	**			
	37	60.0	-.250	.939	-.088	-.081	**			
	38	70.0	-.003	.823	.085	.078	**			
	39	80.0	.169	.743	-.054	.063	**			
	40	90.0	.276	.693	-.032	.038	**			

OVERALL COEFFICIENTS		STEADY	********** SECTION 1 ********** RE	IM
Cz	UPPER	.422	.064	.034
Cz	LOWER	-.123	-.027	-.014
Cz	TOTAL	.299	.038	.020
Cm	UPPER	.021	.020	-.008
Cm	LOWER	-.007	-.002	.006
Cm	TOTAL	.014	.018	-.002

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.775	.437			**			
2		.5	.167	.744			**			
3		1.5	-.490	1.057	.955	-.003	**			
4		3.0	-.791	1.219	.624	-.209	**			
5		5.0	-.911	1.290	1.120	.552	**			
6		7.5	-1.053	1.381			**			
7		10.0	-1.083	1.402	.869	.567	**			
8		15.0	-1.049	1.379	.800	.487	**			
9		20.0	-1.018	1.358	.167	.581	**			
10		25.0	-.876	1.269	2.613	2.834	**			
11		30.0	-.647	1.139	.306	-.066	**			
12		35.0	-.589	1.109	.267	.116	**			
13		40.0	-.485	1.055	.424	-.529	**			
14		45.0	-.431	1.028			**			
15		50.0	-.416	1.020	.094	-.083	**			
16		55.0	-.371	.998	-.167	-.005	**			
17		60.0	-.327	.976	.157	-.002	**			
18		65.0	-.285	.956	.214	-.008	**			
19		70.0	-.224	.927	.074	.054	**			
20		75.0	-.161	.897	-.061	.076	**			
21		80.0	-.107	.872	.139	-.158	**			
22		85.0	-.038	.839			**			
23		90.0	.030	.807	.066	.054	**			
24		95.0	.105	.772			**			
	25	.5	.701	.479			**			
	26	1.5	.369	.648	.215	-.179	**			
	27	3.0	.272	.694			**			
	28	5.0	.162	.746	-.008	.144	**			
	29	7.5	.067	.790			**			
	30	10.0	.019	.813	.084	.027	**			
	31	15.0	-.128	.881	.209	.252	**			
	32	20.0	-.267	.948	.110	.155	**			
	33	25.0	-.359	.992			**			
	34	30.0	-.466	1.045	.307	.041	**			
	35	40.0	-.543	1.085	.238	.025	**			
	36	50.0	-.453	1.039	.288	.354	**			
	37	60.0	-.215	.923	.083	.077	**			
	38	70.0	.023	.811	.316	-.013	**			
	39	80.0	.186	.735	.061	.053	**			
	40	90.0	.286	.688	.039	.033	**			

OVERALL COEFFICIENTS		STEADY	********** SECTION 2 ********** RE	IM
Cz	UPPER	.449	-.125	-.062
Cz	LOWER	-.122	.052	.028
Cz	TOTAL	.327	-.074	-.035
Cm	UPPER	.017	.001	.013
Cm	LOWER	-.002	.020	.009
Cm	TOTAL	.015	.021	.022

*** LANN *** RUN 75 ***

TABLE 9.15c (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.797	.424			**			
2		.5	.154	.750			**			
3		1.5	-.492	1.059	0.000	0.000	**			
4		3.0	-.756	1.199	.441	-.927	**			
5		5.0	-.882	1.273	.808	-.236	**			
6		7.5	-1.034	1.368			**			
7		10.0	-1.036	1.370	.979	-.211	**	-.109	-.302	307
8		15.0	-1.049	1.379	-.188	-.795	**			
9		20.0	-1.034	1.369	-.189	-.711	**	-.002	.036	309
10		25.0	-1.016	1.357	.457	-.847	**			
		30.0					**			
12		35.0	-.661	1.147	-1.053	-2.749	**			
13		40.0	-.449	1.037	.154	-.539	**	.014	.114	313
14		45.0	-.395	1.010	.185	.426	**			
15		50.0	-.373	.999	-.088	-.307	**	-.080	.117	315
16		55.0	-.343	.984	-.382	-.329	**			
17		60.0	-.316	.971	-.188	.001	**	-.104	-.001	317
18		65.0	-.278	.953	-.093	-.083	**			
19		70.0	-.230	.930	-.090	-.070	**	-.081	-.000	319
20		75.0	-.172	.902	-.165	.016	**			
21		80.0	-.112	.874	.084	-.093	**	-.036	-.013	321
22		85.0	-.050	.845			**			
23		90.0	.020	.812	-.084	-.071	**	-.030	-.011	323
24		95.0	.100	.775			**			
	25	.5	.698	.481			**			
	26	1.5	.373	.646	-.210	-.251	**			
	27	3.0	.259	.701	.483	.055	**			
		5.0					**			
	29	7.5	.048	.799			**			
	30	10.0	-.028	.835	.019	-.230	**			
		15.0					**			
	32	20.0	-.273	.951	.183	-.131	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.418	1.021	-.148	.119	**			
	37	60.0	-.191	.911	0.000	0.000	**			
	38	70.0	.038	.804	.197	-.004	**			
	39	80.0	.200	.728	.085	.077	**			
	40	90.0	.299	.682	.059	.052	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.461	.004	.141
Cz	LOWER	-.084	.014	-.004
Cz	TOTAL	.376	.019	.136
Cm	UPPER	.018	.023	.017
Cm	LOWER	.005	.008	.010
Cm	TOTAL	.023	.031	.027

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.838	.399			**			
2		.5	.218	.720			**			
3		1.5	-.388	1.006	-.694	-.465	**			
4		3.0	-.689	1.162	-.200	-.507	**			
5		5.0	-.855	1.256	-.403	-1.308	**	-.006	.041	405
6		7.5	-.946	1.312			**			
7		10.0					**	-.003	.139	407
8		15.0	-.966	1.324	-.204	-.687	**			
9		20.0	-.983	1.335	-.955	-1.026	**	-.048	-.124	409
10		25.0	-.976	1.331	-.877	-.871	**			
		30.0					**			
12		35.0	-.850	1.254	.568	6.900	**			
13		40.0	-.502	1.064	.783	-1.342	**	.428	1.434	413
14		45.0	-.400	1.012	.156	.370	**			
15		50.0	-.372	.999	-.010	.174	**	-.005	.138	415
16		55.0	-.360	.992	-.336	-.188	**			
17		60.0	-.340	.983	-.161	-.172	**	-.084	-.044	417
		65.0					**			
19		70.0	-.272	.950	-.240	-.221	**			
20		75.0	-.242	.935	-.302	-.120	**			
21		80.0	-.148	.891	-.226	-.062	**	-.034	-.036	421
22		85.0	-.059	.849			**			
23		90.0	.016	.814	-.204	.084	**			
24		95.0	.090	.779			**			
	25	.5	.638	.513			**			
	26	1.5	.275	.693	-.178	-.222	**			
	27	3.0	.158	.748	-.657	.125	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.171	.902	-.351	-.177	**			
	32	20.0	-.284	.956	-.114	-.163	**			
	33	25.0	-.361	.993			**			
		30.0					**			
	35	40.0	-.480	1.052	-.279	-.035	**			
	36	50.0	-.401	1.013	-.421	-.268	**			
	37	60.0	-.152	.893	-.173	-.004	**			
	38	70.0	.061	.793	.085	.082	**			
	39	80.0	.226	.716	-.141	.006	**			
	40	90.0	.309	.677	-.165	-.045	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.471	.054	-.067
Cz	LOWER	-.099	-.068	-.019
Cz	TOTAL	.371	-.014	-.086
Cm	UPPER	.027	.017	-.028
Cm	LOWER	.010	-.015	-.003
Cm	TOTAL	.037	.002	-.031

*** L.ANN *** RUN 75 ***

TABLE 9.15c (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.843	.396			**			
2		.5	.306	.678			**			
3		1.5	-.252	.940	-.124	.533	**			
4		3.0	-.531	1.078	-.445	.213	**			
5		5.0	-.674	1.154	-.891	.999	**	-.055	.073	505
6		7.5	-.750	1.196			**			
7		10.0	-.823	1.238	-.341	.959	**			
		15.0					**			
9		20.0	-.827	1.240	-1.043	-.789	**			
10		25.0	-.830	1.242	-.241	.718	**			
11		30.0	-.856	1.257	-.740	.943	**			
		35.0					**			
13		40.0	-.515	1.070	-.152	-3.306	**			
14		45.0	-.414	1.019	.143	.963	**			
15		50.0	-.403	1.014	.082	.354	**			
16		55.0	-.396	1.010	-.224	-.020	**			
17		60.0	-.377	1.001	-.232	.197	**			
18		65.0	-.358	.991	-.427	.178	**			
19		70.0	-.323	.975	-.197	-.009	**	-.030	-.055	519
20		75.0	-.285	.956	-.096	.073	**			
21		80.0	-.207	.919	.006	.176	**			
22		85.0	-.093	.865			**			
23		90.0	-.004	.823	-.251	.271	**			
24		95.0	.087	.781			**			
	25	.5	.569	.549			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	-.139	.887	-.154	.121	**			
		15.0					**			
	32	20.0	-.308	.967	.280	.394	**			
		25.0					**			
	34	30.0	-.411	1.018	-.259	.518	**			
		40.0					**			
	36	50.0	-.401	1.013	-.305	.240	**			
		60.0					**			
		70.0					**			
	39	80.0	.232	.713	-.169	.181	**			
	40	90.0	.316	.674	.074	.068	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.438	.094	-.016
Cz	LOWER	-.098	-.041	.074
Cz	TOTAL	.341	.053	.058
Cm	UPPER	.039	.016	-.002
Cm	LOWER	.007	-.022	.026
Cm	TOTAL	.047	-.007	.024

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.833	.402			**			
		.5					**			
3		1.5	-.051	.845			**			
		3.0					**			
5		5.0	-.512	1.068	0.000	0.000	**			
		7.5					**			
7		10.0	-.718	1.178	0.000	0.000	**			
8		15.0	-.680	1.157	.312	2.010	**			
9		20.0	-.756	1.200			**			
10		25.0	-.788	1.217	-.448	.246	**			
11		30.0	-.489	1.057			**			
12		35.0	-.431	1.028	.983	-1.057	**			
13		40.0	-.331	.978	-.152	.122	**			
14		45.0	-.354	.990	-.123	-.153	**			
15		50.0	-.364	.995	0.000	0.000	**			
16		55.0	-.358	.991	.026	-.263	**			
17		60.0	-.342	.984	0.000	0.000	**			
18		65.0	-.338	.982	-.246	-.021	**			
19		70.0	-.324	.975	0.000	0.000	**			
20		75.0	-.284	.956	.121	-.108	**			
21		80.0	-.213	.922	.003	-.215	**			
22		85.0	-.086	.862			**			
23		90.0	.025	.810	-.103	-.098	**			
24		95.0	.108	.771			**			
	25	.5	.396	.635			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.309	.968	-.166	-.240	**			
		20.0					**			
	33	25.0	-.401	1.013			**			
	34	30.0	-.407	1.016	0.000	0.000	**			
	35	40.0	-.403	1.014	0.000	0.000	**			
	36	50.0	-.318	.972	-.033	.280	**			
		60.0					**			
		70.0					**			
	39	80.0	.235	.712	-.217	.005	**			
	40	90.0	.299	.682	-.006	-.205	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.353	-.008	-.016
Cz	LOWER	-.094	-.026	.003
Cz	TOTAL	.259	-.034	-.013
Cm	UPPER	.036	.004	.027
Cm	LOWER	.013	-.012	.004
Cm	TOTAL	.050	-.008	.031

*** LANN *** RUN 82 *** TABLE 9.16

TEST CONDITIONS		NORM. COEFF. Cz	Czi RE	Czi IM	MOM. COEFF. Cm	Cmi RE	Cmi IM	DISPLACEMENTS REL.TO LVDT AMPL.(-)	PHASE (DEG)	** VIBRATION MODE **Y/(B/2)	HEAVE AT X=.224 M (MM)	PITCH (DEG)
RUNNR. = 82	SECT.1	.298	1.694	-.175	.015	.097	.071	LVDT	1.00	0.00	** .000		
	SECT.2	.326	2.043	-.277	.015	.136	.081	CALC. 1	1.25	-4.70	** .100		
ALFA = .60 (DEG)	SECT.3	.379	2.048	-.088	.023	.058	.105	ACC. 2	.47	-11.98	** .100	.14	.47
MACH = .821	SECT.4	.366	2.462	-.103	.037	.070	.095	ACC. 3	.50	-169.30	** .100		
RE*10**-6= 5.39	SECT.5	.345	1.814	-.083	.047	-.071	.078	ACC. 4	.32	-33.86	** .420		
Q =44.81 (KPA)	SECT.6	.273	1.262	-.055	.051	-.160	.035	ACC. 5	.38	-178.32	** .420	.47	.49
P-SETTL. =147.8 (KPA)								ACC. 6	1.16	-172.49	** .420		
T-SETTL. =26.00	WING	.321	1.862	-.144	.038	.243	.109	ACC. 7	.65	-149.50	** .700		
					(WING : CM ABOUT			CALC. 8	1.05	-176.69	** .700	1.00	.50
DALFA = .500 (DEG)					AERODYN. CENTER)			CALC. 9	1.60	-172.80	** .700		
FREQ. =12.00 (Hz)								CALC.10	1.19	-173.98	** .920		
REDFR. = .038								ACC.11	1.52	-173.18	** .920	.63	.41
HARM. = 1								ACC.12	1.86	-172.66	** .920		

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.742	.456			**			
2		.5	.125	.763			**			
3		1.5	-.500	1.062	-3.689	.509	**			
4		3.0	-.869	1.264	-5.489	.911	**			
5		5.0	-.888	1.276			**	-6.458	.906	105
6		7.5	-1.042	1.373			**			
7		10.0	-1.067	1.390	-3.683	.611	**			
8		15.0	-.902	1.284	-17.48	4.280	**			
9		20.0	-.627	1.128	-7.098	.473	**			
10		25.0	-.605	1.117	-3.691	.310	**			
11		30.0	-.600	1.114	-4.290	.511	**			
12		35.0	-.592	1.110			**			
13		40.0	-.588	1.108	-3.978	.694	**			
14		45.0	-.537	1.081	-9.166	1.663	**			
15		50.0	-.441	1.033	-2.792	-.778	**			
16		55.0	-.386	1.005	-.019	-1.051	**			
17		60.0	-.343	.984	-.274	-.694	**			
18		65.0	-.288	.957	-.296	-.513	**			
19		70.0	-.228	.928	-.180	-.405	**	-.243	-.388	119
20		75.0	-.169	.900	-.221	-.290	**			
21		80.0	-.110	.873	-.103	-.268	**			
22		85.0	-.033	.837			**			
23		90.0	.026	.809	-.147	-.256	**			
24		95.0	.100	.775			**			
	25	.5	.703	.478			**			
	26	1.5	.369	.648	3.786	-1.028	**			
	27	3.0	.305	.679	4.206	-.076	**			
	28	5.0	.220	.718	3.850	-.167	**			
	29	7.5	.076	.786			**			
		10.0					**			
	31	15.0	-.098	.867	3.030	-.525	**			
	32	20.0	-.237	.933	4.011	-.322	**			
	33	25.0	-.333	.979			**			
	34	30.0	-.451	1.037	3.512	-.680	**			
	35	40.0	-.504	1.064	3.464	-1.120	**			
	36	50.0	-.489	1.056	1.915	-.102	**			
	37	60.0	-.249	.939	1.026	.010	**			
	38	70.0	-.002	.822	.774	.149	**			
	39	80.0	.168	.743	.674	.047	**			
	40	90.0	.276	.692	.416	.061	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 1 ** RE	IM
Cz	UPPER	.421	1.035	-.090
Cz	LOWER	-.123	.659	-.085
Cz	TOTAL	.298	1.694	-.175
Cm	UPPER	.022	.008	.067
Cm	LOWER	-.007	.089	.003
Cm	TOTAL	.015	.097	.071

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.773	.438			**			
2		.5	.166	.744			**			
3		1.5	-.489	1.057	-5.772	.779	**			
4		3.0	-.794	1.220	-5.241	.964	**			
5		5.0	-.912	1.290	-5.795	1.255	**			
6		7.5	-1.058	1.384			**			
7		10.0	-1.083	1.401	-2.327	.448	**			
8		15.0	-1.050	1.378	-4.559	1.015	**			
9		20.0	-1.018	1.357	-5.741	1.612	**			
10		25.0	-.812	1.231	-24.39	6.726	**			
11		30.0	-.681	1.157	-11.58	2.010	**			
12		35.0	-.579	1.103	-9.097	1.741	**			
13		40.0	-.499	1.062	-7.528	-.186	**			
14		45.0	-.433	1.028			**			
15		50.0	-.416	1.020	.607	-1.213	**			
16		55.0	-.371	.998	.382	-1.011	**			
17		60.0	-.326	.976	.307	-.867	**			
18		65.0	-.285	.956	.410	-.633	**			
19		70.0	-.223	.926	.351	-.491	**			
20		75.0	-.160	.896	.181	-.399	**			
21		80.0	-.107	.871	.178	-.312	**			
22		85.0	-.039	.839			**			
23		90.0	.030	.807	.163	-.293	**			
24		95.0	.105	.772			**			
	25	.5	.700	.479			**			
	26	1.5	.370	.648	4.524	-.742	**			
	27	3.0	.273	.694			**			
	28	5.0	.161	.746	2.823	-1.139	**			
	29	7.5	.068	.789			**			
	30	10.0	.019	.812	3.490	-.442	**			
	31	15.0	-.126	.880	3.516	-.629	**			
	32	20.0	-.264	.946	4.473	-.540	**			
	33	25.0	-.360	.992			**			
	34	30.0	-.464	1.044	4.244	-.841	**			
	35	40.0	-.553	1.089	5.499	-1.118	**			
	36	50.0	-.452	1.038	2.020	-.293	**			
	37	60.0	-.215	.922	1.137	.035	**			
	38	70.0	.023	.810	.867	.088	**			
	39	80.0	.186	.735	.853	.064	**			
	40	90.0	.286	.687	.565	.045	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 2 ** RE	IM
Cz	UPPER	.448	1.260	-.160
Cz	LOWER	-.122	.782	-.117
Cz	TOTAL	.326	2.043	-.277
Cm	UPPER	.017	.007	.077
Cm	LOWER	-.002	.128	.005
Cm	TOTAL	.015	.136	.081

*** LANN *** RUN 82 ***

TABLE 9.16 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.796	.424			**			
2		.5	.152	.751			**			
3		1.5	-.491	1.058	-4.801	.650	**			
4		3.0	-.761	1.201	-6.138	.650	**			
5		5.0	-.885	1.274	-5.578	.439	**			
6		7.5	-1.033	1.367			**			
7		10.0	-1.041	1.372	-3.476	.354	**	-4.174	.515	307
8		15.0	-1.049	1.378	-5.004	.603	**			
9		20.0	-1.032	1.367	-5.250	.664	**	-4.917	.669	309
10		25.0	-1.010	1.352	-6.410	.911	**			
		30.0					**			
12		35.0	-.659	1.145	-32.16	6.439	**			
13		40.0	-.474	1.049	-11.18	-.532	**	-10.30	.497	313
14		45.0	-.407	1.016	-1.183	-1.330	**			
15		50.0	-.378	1.001	1.568	-1.626	**	1.828	-1.423	315
16		55.0	-.343	.984	2.550	-1.487	**			
17		60.0	-.315	.970	2.159	-1.286	**	2.170	-1.067	317
18		65.0	-.277	.952	1.816	-.921	**			
19		70.0	-.228	.929	1.304	-.620	**	1.202	-.605	319
20		75.0	-.170	.901	.703	-.433	**			
21		80.0	-.111	.873	.466	-.348	**	.494	-.270	321
22		85.0	-.050	.845			**			
23		90.0	.020	.812	.213	-.158	**	.209	-.155	323
24		95.0	.100	.775			**			
	25	.5	.698	.481			**			
	26	1.5	.373	.646	4.844	-.605	**			
	27	3.0	.256	.702	5.649	.327	**			
		5.0					**			
	29	7.5	.049	.798			**			
	30	10.0	-.028	.834	3.515	-.509	**			
		15.0					**			
	32	20.0	-.270	.949	4.755	-.335	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.417	1.020	2.373	.033	**			
	37	60.0	-.191	.911	1.126	.127	**			
	38	70.0	.038	.803	.785	.188	**			
	39	80.0	.199	.728	.866	.137	**			
	40	90.0	.300	.681	.646	.142	**			

OVERALL COEFFICIENTS		STEADY	SECTION 3 RE	IM
Cz	UPPER	.462	1.288	-.070
Cz	LOWER	-.083	.760	-.018
Cz	TOTAL	.379	2.048	-.088
Cm	UPPER	.018	-.038	.080
Cm	LOWER	.006	.096	.025
Cm	TOTAL	.023	.058	.105

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.837	.399			**			
2		.5	.215	.721			**			
3		1.5	-.386	1.005	-7.318	.357	**			
4		3.0	-.689	1.162	-4.915	.617	**			
5		5.0	-.859	1.258	-3.411	.417	**	-5.299	.681	405
6		7.5	-.946	1.311			**			
7		10.0					**	-4.672	.709	407
8		15.0	-.961	1.320	-6.078	.012	**			
9		20.0	-.983	1.335	-5.533	.391	**	-5.165	.671	409
10		25.0	-.966	1.324	-7.191	.478	**			
		30.0					**			
12		35.0	-.730	1.184	-36.58	5.945	**			
13		40.0	-.554	1.090	-24.63	1.301	**	-29.52	3.223	413
14		45.0	-.424	1.024	-4.087	-1.599	**			
15		50.0	-.387	1.005	1.818	-1.635	**	2.160	-1.443	415
16		55.0	-.362	.993	3.892	-1.870	**			
17		60.0	-.339	.982	3.982	-1.264	**	3.847	-1.263	417
		65.0					**			
19		70.0	-.268	.948	2.416	-.663	**			
20		75.0	-.239	.933	1.853	-.299	**			
21		80.0	-.146	.890	.835	-.287	**	1.195	-.328	421
22		85.0	-.059	.849			**			
23		90.0	.016	.814	.182	-.154	**			
24		95.0	.091	.779			**			
	25	.5	.637	.513			**			
	26	1.5	.275	.693	5.576	-.678	**			
	27	3.0	.156	.749	5.109	-.448	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.168	.900	4.478	-.440	**			
	32	20.0	-.281	.954	5.194	-.463	**			
	33	25.0	-.362	.993			**			
		30.0					**			
	35	40.0	-.482	1.053	4.665	-.331	**			
	36	50.0	-.400	1.012	2.194	-.171	**			
	37	60.0	-.152	.892	1.094	.175	**			
	38	70.0	.061	.793	.768	.167	**			
	39	80.0	.225	.716	.957	.131	**			
	40	90.0	.310	.676	.822	.134	**			

OVERALL COEFFICIENTS		STEADY	SECTION 4 RE	IM
Cz	UPPER	.465	1.580	-.057
Cz	LOWER	-.099	.882	-.047
Cz	TOTAL	.366	2.462	-.103
Cm	UPPER	.027	-.039	.074
Cm	LOWER	.010	.109	.021
Cm	TOTAL	.037	.070	.095

*** LANN *** RUN 82 *** TABLE 9.16 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.842	.396			**			
2		.5	.305	.678			**			
3		1.5	-.250	.939	-6.836	.176	**			
4		3.0	-.532	1.078	-5.441	1.077	**			
5		5.0	-.674	1.153	-8.685	.365	**	-7.876	.887	505
6		7.5	-.744	1.192			**			
7		10.0	-.831	1.242	-4.470	.438	**			
		15.0					**			
9		20.0	-.825	1.238	-8.047	.798	**			
10		25.0	-.834	1.243	-7.219	.640	**			
11		30.0	-.822	1.237	-12.56	1.228	**			
		35.0					**			
13		40.0	-.576	1.101	-22.38	.899	**			
14		45.0	-.446	1.035	-.254	-2.049	**			
15		50.0	-.411	1.017	6.238	-2.045	**			
16		55.0	-.393	1.008	6.141	-1.573	**			
17		60.0	-.372	.998	4.209	-.932	**			
18		65.0	-.352	.988	2.847	-.624	**			
19		70.0	-.318	.972	2.243	-.340	**	1.881	-.321	519
20		75.0	-.282	.954	.709	-.352	**			
21		80.0	-.205	.917	.458	-.127	**			
22		85.0	-.093	.865			**			
23		90.0	-.005	.823	-.067	-.031	**			
24		95.0	.087	.781			**			
	25	.5	.570	.549			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	-.139	.886	4.926	-1.054	**			
		15.0					**			
	32	20.0	-.305	.965	5.788	-.683	**			
		25.0					**			
	34	30.0	-.410	1.017	4.456	-.807	**			
		40.0					**			
	36	50.0	-.400	1.012	1.633	-.247	**			
		60.0					**			
		70.0					**			
	39	80.0	.231	.713	.853	.085	**			
	40	90.0	.316	.673	.691	-.040	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.442	1.054	.027
Cz	LOWER	-.097	.760	-.109
Cz	TOTAL	.345	1.814	-.083
Cm	UPPER	.040	-.192	.079
Cm	LOWER	.007	.121	-.001
Cm	TOTAL	.047	-.071	.078

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.832	.402			**			
		.5					**			
3		1.5	-.050	.845			**			
		3.0					**			
5		5.0	-.506	1.065	-8.546	.445	**			
		7.5					**			
7		10.0	-.708	1.172	-5.980	.297	**			
8		15.0	-.686	1.160	-9.703	1.170	**			
9		20.0	-.728	1.183			**			
10		25.0	-.779	1.212	-7.359	.551	**			
11		30.0	-.759	1.201			**			
12		35.0	-.475	1.049	-16.24	-.694	**			
13		40.0	-.348	.986	4.156	-.930	**			
14		45.0	-.350	.988	6.192	-1.003	**			
15		50.0	-.357	.991	3.851	-.716	**			
16		55.0	-.353	.989	1.952	-.484	**			
17		60.0	-.340	.982	.823	-.156	**			
18		65.0	-.337	.981	.383	-.192	**			
19		70.0	-.322	.974	.129	-.103	**			
20		75.0	-.283	.955	-.255	.020	**			
21		80.0	-.213	.921	-.558	.057	**			
22		85.0	-.086	.861			**			
23		90.0	.024	.810	-.705	-.017	**			
24		95.0	.108	.771			**			
	25	.5	.396	.635			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.306	.966	5.712	-.774	**			
		20.0					**			
	33	25.0	-.403	1.013			**			
	34	30.0	-.406	1.015	2.549	-.470	**			
	35	40.0	-.405	1.014	1.078	-.337	**			
	36	50.0	-.317	.971	.353	-.177	**			
		60.0					**			
		70.0					**			
	39	80.0	.234	.712	.042	.017	**			
	40	90.0	.300	.681	.249	-.002	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.366	.880	.013
Cz	LOWER	-.093	.381	-.068
Cz	TOTAL	.273	1.262	-.055
Cm	UPPER	.037	-.151	.038
Cm	LOWER	.013	-.009	-.003
Cm	TOTAL	.051	-.160	.035

*** LANN *** RUN 79 ***

TABLE 9.17

TEST CONDITIONS			NORM. COEFF. Cz RE	NORM. COEFF. Czi IM	MOM. COEFF. Cm RE	MOM. COEFF. Cmi IM	DISPLACEMENTS REL.TO LVDT AMPL.(-)	DISPLACEMENTS REL.TO LVDT PHASE (DEG)	VIBRATION MODE **Y/(B/2)	VIBRATION MODE HEAVE AT X=.224 M (MM)	VIBRATION MODE PITCH (DEG)
RUNNR. = 79			SECT.1 .296	1.545	-.382	.014	.071	.109	LVDT	1.00	0.00	** .000		
			SECT.2 .323	1.835	-.598	.015	.131	.088	CALC. 1	1.11	1.39	** .100		
ALFA = .58	(DEG)		SECT.3 .376	2.130	-.331	.023	.077	.126	ACC. 2	.35	-.55	** .100	.02	.46
MACH = .821			SECT.4 .362	2.697	-.296	.036	.089	.108	ACC. 3	.57	-175.93	** .100		
RE*10**-6= 5.40			SECT.5 .340	2.054	-.081	.047	-.079	.111	ACC. 4	.23	-150.27	** .420		
Q =44.88	(KPA)		SECT.6 .262	1.368	.006	.050	-.192	.036	ACC. 5	.87	-175.58	** .420	.15	.46
P-SETTL. =148.1	(KPA)								ACC. 6	1.54	-175.82	** .420		
T-SETTL. =26.00			WING .317	1.860	-.329	.037	.375	.192	ACC. 7	1.56	-170.86	** .700		
						(WING ; CM ABOUT			CALC. 8	2.05	-175.44	** .700	.50	.47
DALFA = .502	(DEG)					AERODYN. CENTER)			CALC. 9	2.55	-175.67	** .700		
FREQ. =24.00	(Hz)								CALC.10	2.66	-174.32	** .920		
REDFR. = .076									ACC.11	3.05	-175.02	** .920	.68	.48
HARM. = 1									ACC.12	3.44	-175.57	** .920		

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.744	.454			**			
2		.5	.129	.761			**			
3		1.5	-.499	1.061	-3.987	1.451	**			
4		3.0	-.868	1.263	-6.019	2.516	**			
5		5.0	-.885	1.273			**	-6.302	2.001	105
6		7.5	-1.041	1.371			**			
7		10.0	-1.066	1.388	-3.291	1.644	**			
8		15.0	-.909	1.288	-14.77	7.005	**			
9		20.0	-.625	1.126	-6.084	2.700	**			
10		25.0	-.606	1.116	-2.943	1.451	**			
11		30.0	-.594	1.110	-3.142	1.690	**			
12		35.0	-.587	1.106			**			
13		40.0	-.588	1.107	-3.096	1.789	**			
14		45.0	-.536	1.080	-7.536	4.041	**			
15		50.0	-.441	1.032	-3.016	-.517	**			
16		55.0	-.386	1.004	-.537	-1.365	**			
17		60.0	-.344	.984	-.462	-.957	**			
18		65.0	-.287	.956	-.489	-.888	**			
19		70.0	-.226	.927	-.300	-.608	**	-.419	-.705	119
20		75.0	-.170	.900	-.218	-.259	**			
21		80.0	-.110	.872	-.125	-.219	**			
22		85.0	-.033	.836			**			
23		90.0	.028	.808	-.094	-.147	**			
24		95.0	.101	.774			**			
	25	.5	.704	.477			**			
	26	1.5	.368	.648	4.266	-.033	**			
	27	3.0	.304	.679	5.028	.508	**			
	28	5.0	.221	.718	5.817	-.961	**			
	29	7.5	.075	.786			**			
		10.0					**			
	31	15.0	-.099	.867	3.100	-.762	**			
	32	20.0	-.238	.933	4.552	-.667	**			
	33	25.0	-.335	.979			**			
	34	30.0	-.453	1.038	2.543	-.003	**			
	35	40.0	-.506	1.065	2.377	-.945	**			
	36	50.0	-.491	1.057	1.550	.242	**			
	37	60.0	-.250	.939	1.110	.250	**			
	38	70.0	-.003	.822	.846	.270	**			
	39	80.0	.168	.743	.600	.216	**			
	40	90.0	.276	.692	.525	.180	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 1 ** RE	IM
Cz	UPPER	.420	.908	-.315
Cz	LOWER	-.124	.637	-.067
Cz	TOTAL	.296	1.545	-.382
Cm	UPPER	.021	.009	.078
Cm	LOWER	-.007	.062	.032
Cm	TOTAL	.014	.071	.109

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.777	.436			**			
2		.5	.170	.742			**			
3		1.5	-.487	1.055	-6.136	1.770	**			
4		3.0	-.792	1.219	-5.590	1.954	**			
5		5.0	-.909	1.288	-6.440	1.636	**			
6		7.5	-1.056	1.381			**			
7		10.0	-1.081	1.399	-2.197	.817	**			
8		15.0	-1.048	1.376	-4.250	1.685	**			
9		20.0	-1.018	1.356	-1.767	2.410	**			
10		25.0	-.807	1.227	-21.41	14.666	**			
11		30.0	-.670	1.151	-8.954	5.305	**			
12		35.0	-.573	1.099	-7.823	4.162	**			
13		40.0	-.505	1.064	-7.676	1.893	**			
14		45.0	-.434	1.028			**			
15		50.0	-.414	1.019	-.274	-1.735	**			
16		55.0	-.370	.997	-.242	-1.402	**			
17		60.0	-.327	.976	-.104	-1.216	**			
18		65.0	-.285	.955	-.042	-1.038	**			
19		70.0	-.223	.925	-.019	-.844	**			
20		75.0	-.161	.896	.017	-.501	**			
21		80.0	-.107	.871	.034	-.387	**			
22		85.0	-.038	.838			**			
23		90.0	.031	.806	-.013	-.216	**			
24		95.0	.106	.771			**			
	25	.5	.701	.479			**			
	26	1.5	.370	.647	4.930	.070	**			
	27	3.0	.269	.695			**			
	28	5.0	.162	.745	3.844	-1.495	**			
	29	7.5	.067	.790			**			
	30	10.0	.018	.812	3.339	-.811	**			
	31	15.0	-.128	.881	3.467	-.925	**			
	32	20.0	-.267	.946	4.605	-.903	**			
	33	25.0	-.363	.993			**			
	34	30.0	-.466	1.044	3.025	-1.110	**			
	35	40.0	-.554	1.089	4.176	-1.234	**			
	36	50.0	-.453	1.038	1.403	-.324	**			
	37	60.0	-.215	.922	1.193	.138	**			
	38	70.0	.023	.810	.837	.182	**			
	39	80.0	.186	.734	.673	.133	**			
	40	90.0	.286	.687	.534	.090	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 2 ** RE	IM
Cz	UPPER	.446	1.141	-.459
Cz	LOWER	-.123	.694	-.139
Cz	TOTAL	.323	1.835	-.598
Cm	UPPER	.017	.042	.075
Cm	LOWER	-.002	.089	.014
Cm	TOTAL	.015	.131	.088

*** LANN *** RUN 79 ***

TABLE 9.17 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.798	.423			**			
2		.5	.155	.748			**			
3		1.5	-.489	1.056	-5.137	1.095	**			
4		3.0	-.759	1.200	-6.878	1.452	**			
5		5.0	-.883	1.272	-6.462	.975	**			
6		7.5	-1.030	1.364			**			
7		10.0	-1.039	1.370	-3.591	.688	**	-4.166	1.140	307
8		15.0	-1.047	1.375	-4.988	1.175	**			
9		20.0	-1.031	1.365	-5.327	1.367	**	-4.916	1.433	309
10		25.0	-1.009	1.351	-6.489	2.028	**			
		30.0					**			
12		35.0	-.639	1.134	-51.11	15.850	**			
13		40.0	-.480	1.051	-11.79	2.351	**	-11.80	2.105	313
14		45.0	-.411	1.017	-2.313	-1.924	**			
15		50.0	-.378	1.000	.783	-2.259	**	1.044	-2.867	315
16		55.0	-.341	.983	1.842	-2.631	**			
17		60.0	-.313	.969	1.635	-2.113	**	1.891	-2.253	317
18		65.0	-.276	.951	1.490	-1.964	**			
19		70.0	-.228	.928	.999	-1.248	**	1.109	-1.256	319
20		75.0	-.171	.901	.611	-.793	**			
21		80.0	-.111	.873	.372	-.521	**	.486	-.505	321
22		85.0	-.049	.844			**			
23		90.0	.021	.811	.160	-.192	**	.202	-.269	323
24		95.0	.101	.774			**			
	25	.5	.698	.480			**			
	26	1.5	.372	.646	5.404	.587	**			
	27	3.0	.254	.702	6.870	1.123	**			
		5.0					**			
	29	7.5	.047	.799			**			
	30	10.0	-.030	.835	3.107	-.654	**			
		15.0					**			
	32	20.0	-.272	.949	5.183	-.583	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.418	1.020	2.012	.051	**			
	37	60.0	-.192	.911	1.166	.199	**			
	38	70.0	.038	.803	.773	.210	**			
	39	80.0	.199	.728	.809	.202	**			
	40	90.0	.299	.681	.648	.179	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.460	1.359	-.318
Cz	LOWER	-.084	.771	-.013
Cz	TOTAL	.376	2.130	-.331
Cm	UPPER	.018	-.006	.101
Cm	LOWER	.006	.083	.024
Cm	TOTAL	.023	.077	.126

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.840	.397			**			
2		.5	.219	.719			**			
3		1.5	-.384	1.003	-7.753	.565	**			
4		3.0	-.686	1.160	-5.396	.777	**			
5		5.0	-.857	1.256	-3.755	.690	**	-5.471	1.331	405
6		7.5	-.941	1.307			**			
7		10.0					**	-4.732	1.329	407
8		15.0	-.958	1.318	-6.779	.330	**			
9		20.0	-.982	1.333	-5.771	.702	**	-5.351	1.334	409
10		25.0	-.963	1.321	-7.716	1.419	**			
		30.0					**			
12		35.0	-.708	1.171	-41.15	14.309	**			
13		40.0	-.551	1.087	-25.98	7.262	**	-31.36	8.249	413
14		45.0	-.432	1.027	-5.143	-1.426	**			
15		50.0	-.387	1.005	1.035	-2.801	**	1.335	-2.800	415
16		55.0	-.361	.992	2.916	-3.103	**			
17		60.0	-.335	.979	3.563	-2.438	**	3.688	-2.692	417
		65.0					**			
19		70.0	-.267	.947	2.317	-1.417	**			
20		75.0	-.238	.933	2.132	-.885	**			
21		80.0	-.145	.889	.940	-.508	**	1.300	-.701	421
22		85.0	-.057	.848			**			
23		90.0	.018	.812	.232	-.112	**			
24		95.0	.092	.778			**			
	25	.5	.637	.513			**			
	26	1.5	.273	.693	6.301	.785	**			
	27	3.0	.154	.749	5.829	.612	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.170	.901	4.844	-.451	**			
	32	20.0	-.283	.954	5.786	-.353	**			
	33	25.0	-.365	.994			**			
		30.0					**			
	35	40.0	-.484	1.053	3.910	-.251	**			
	36	50.0	-.400	1.012	1.909	-.070	**			
	37	60.0	-.152	.892	1.315	.268	**			
	38	70.0	.062	.792	.974	.221	**			
	39	80.0	.226	.716	.840	.227	**			
	40	90.0	.310	.676	.736	.183	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.462	1.799	-.302
Cz	LOWER	-.100	.897	.006
Cz	TOTAL	.362	2.697	-.296
Cm	UPPER	.027	.000	.088
Cm	LOWER	.010	.089	.020
Cm	TOTAL	.036	.089	.108

*** LANN *** RUN 79 ***

TABLE 9.17 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.843	.395			**			
2		.5	.310	.676			**			
3		1.5	-.247	.937	-7.646	.196	**			
4		3.0	-.528	1.076	-6.173	.973	**			
5		5.0	-.671	1.151	-9.964	1.238	**	-8.340	1.729	505
6		7.5	-.740	1.189			**			
7		10.0	-.829	1.240	-5.573	.158	**			
		15.0					**			
9		20.0	-.822	1.236	-9.303	.933	**			
10		25.0	-.824	1.237	-8.036	1.125	**			
11		30.0	-.790	1.217	-17.89	2.662	**			
		35.0					**			
13		40.0	-.577	1.101	-22.49	3.950	**			
14		45.0	-.459	1.041	-1.731	-2.612	**			
15		50.0	-.410	1.016	4.730	-3.490	**			
16		55.0	-.389	1.006	5.105	-2.777	**			
17		60.0	-.368	.996	3.989	-1.798	**			
18		65.0	-.349	.986	2.867	-1.194	**			
19		70.0	-.317	.971	2.297	-.635	**	2.134	-.636	519
20		75.0	-.282	.954	.666	-.248	**			
21		80.0	-.204	.917	.481	.010	**			
22		85.0	-.092	.864			**			
23		90.0	-.003	.822	-.071	.107	**			
24		95.0	.088	.780			**			
	25	.5	.569	.549			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	-.141	.887	5.088	-.793	**			
		15.0					**			
	32	20.0	-.307	.966	6.156	-.337	**			
		25.0					**			
	34	30.0	-.412	1.017	3.758	-.708	**			
		40.0					**			
	36	50.0	-.401	1.012	1.317	-.014	**			
		60.0					**			
		70.0					**			
	39	80.0	.231	.713	.678	.170	**			
	40	90.0	.316	.673	.509	.088	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.438	1.352	-.023
Cz	LOWER	-.098	.702	-.058
Cz	TOTAL	.340	2.054	-.081
Cm	UPPER	.039	-.160	.093
Cm	LOWER	.007	.080	.017
Cm	TOTAL	.047	-.079	.111

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.834	.401			**			
		.5					**			
3		1.5	-.046	.842			**			
		3.0					**			
5		5.0	-.500	1.062	-9.726	.527	**			
		7.5					**			
7		10.0	-.699	1.167	-7.984	.188	**			
8		15.0	-.685	1.159	-10.03	.537	**			
9		20.0	-.736	1.187			**			
10		25.0	-.777	1.210	-8.334	.695	**			
11		30.0	-.587	1.107			**			
12		35.0	-.483	1.053	-15.84	.628	**			
13		40.0	-.351	.988	2.901	-1.262	**			
14		45.0	-.343	.983	5.973	-1.396	**			
15		50.0	-.354	.989	3.694	-.842	**			
16		55.0	-.352	.988	1.855	-.436	**			
17		60.0	-.339	.981	1.017	-.258	**			
18		65.0	-.335	.980	.501	-.131	**			
19		70.0	-.321	.973	.059	.027	**			
20		75.0	-.284	.955	-.161	.208	**			
21		80.0	-.213	.921	-.537	.179	**			
22		85.0	-.085	.861			**			
23		90.0	.026	.808	-.689	.242	**			
24		95.0	.110	.770			**			
	25	.5	.395	.635			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.309	.967	6.384	-.024	**			
		20.0					**			
	33	25.0	-.407	1.015			**			
	34	30.0	-.408	1.015	2.185	.020	**			
	35	40.0	-.405	1.014	.849	-.135	**			
	36	50.0	-.317	.971	.312	.074	**			
		60.0					**			
		70.0					**			
	39	80.0	.235	.711	.068	.193	**			
	40	90.0	.300	.681	.143	.125	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.357	.986	-.010
Cz	LOWER	-.094	.382	.016
Cz	TOTAL	.262	1.368	.006
Cm	UPPER	.037	-.169	.017
Cm	LOWER	.013	-.023	.019
Cm	TOTAL	.050	-.192	.036

*** L.ANN *** RUN 85 ***

TABLE 9.18

TEST CONDITIONS		NORM. COEFF. Cz RE	NORM. COEFF. Czi IM	MOM. COEFF. Cm RE	MOM. COEFF. Cmi IM	DISPLACEMENTS REL.TO LVDT AMPL.(-)	DISPLACEMENTS PHASE (DEG)	VIBRATION MODE **Y/(B/2)	VIBRATION MODE HEAVE AT X=.224 M (MM)	VIBRATION MODE PITCH (DEG)
RUNNR. = 85		SECT.1 .302	.942	-.569	.014 .146 .124	LVDT	1.00	0.00	** .000	
		SECT.2 .329	1.037	-.920	.015 .141 .097	CALC. 1	1.33	1.68	** .100	
ALFA = .60 (DEG)		SECT.3 .378	1.212	-.784	.023 .114 .144	ACC. 2	.61	2.27	** .100	.15 .21
MACH = .821		SECT.4 .374	1.400	-.842	.037 .107 .189	ACC. 3	.25	-181.47	** .100	
RE*10**-6= 5.40		SECT.5 .341	1.049	-.750	.047 -.014 .196	ACC. 4	.95	6.54	** .420	
Q =45.07 (KPA)		SECT.6 .272	.706	-.531	.051 -.091 .140	ACC. 5	.34	12.94	** .420	.54 .20
P-SETTL. =148.8 (KPA)						ACC. 6	.23	160.23	** .420	
T-SETTL. =27.00		WING .323	1.041	-.701	.037 .227 .039	ACC. 7	1.15	10.29	** .700	
					(WING : CM ABOUT	CALC. 8	.74	16.79	** .700	1.09 .18
DALFA = .252 (DEG)					AERODYN. CENTER)	CALC. 9	.42	32.49	** .700	
FREQ. =48.00 (Hz)						CALC.10	1.71	12.58	** .920	
REDFR. = .151						ACC.11	1.47	15.15	** .920	1.65 .16
HARM. = 1						ACC.12	1.22	18.81	** .920	

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.745	.454			**			
2		.5	.127	.762			**			
3		1.5	-.501	1.062	-1.444	3.373	**			
4		3.0	-.871	1.265	-2.984	4.445	**			
5		5.0	-.891	1.276			**	-3.864	3.081	105
6		7.5	-1.047	1.375			**			
7		10.0	-1.066	1.388	-2.209	2.760	**			
8		15.0	-.982	1.333	-2.464	4.017	**			
9		20.0	-.622	1.125	-1.727	3.107	**			
10		25.0	-.601	1.113	-.715	1.804	**			
11		30.0	-.608	1.117	-.493	2.185	**			
12		35.0	-.582	1.103			**			
13		40.0	-.612	1.119	-.596	1.983	**			
14		45.0	-.553	1.088	-1.264	7.061	**			
15		50.0	-.430	1.026	-3.335	.072	**			
16		55.0	-.387	1.005	-2.008	-.817	**			
17		60.0	-.346	.985	-1.121	-.413	**			
18		65.0	-.288	.956	-1.024	-.664	**			
19		70.0	-.228	.928	-.833	-.485	**	-.955	-.667	119
20		75.0	-.171	.901	-.584	-.212	**			
21		80.0	-.110	.872	-.194	-.300	**			
22		85.0	-.034	.836			**			
23		90.0	.027	.808	-.230	-.259	**			
24		95.0	.101	.774			**			
	25	.5	.706	.476			**			
	26	1.5	.370	.647	4.168	-2.710	**			
	27	3.0	.307	.677	4.134	-2.912	**			
	28	5.0	.222	.717	5.941	-2.668	**			
	29	7.5	.076	.785			**			
		10.0					**			
	31	15.0	-.099	.867	2.651	-1.283	**			
	32	20.0	-.238	.933	3.013	-1.350	**			
	33	25.0	-.333	.978			**			
	34	30.0	-.453	1.038	2.313	-.818	**			
	35	40.0	-.511	1.067	2.002	-.833	**			
	36	50.0	-.495	1.059	1.252	.772	**			
	37	60.0	-.251	.939	.871	.525	**			
	38	70.0	-.002	.821	.860	.504	**			
	39	80.0	.169	.742	.907	.067	**			
	40	90.0	.277	.691	.695	-.046	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 1 ** RE	IM
Cz	UPPER	.426	.375	-.436
Cz	LOWER	-.124	.567	-.133
Cz	TOTAL	.302	.942	-.569
Cm	UPPER	.021	.074	.055
Cm	LOWER	-.007	.072	.069
Cm	TOTAL	.014	.146	.124

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.776	.436			**			
2		.5	.167	.743			**			
3		1.5	-.491	1.057	-3.101	4.321	**			
4		3.0	-.794	1.219	-2.862	3.947	**			
5		5.0	-.915	1.291	-3.363	4.022	**			
6		7.5	-1.057	1.382			**			
7		10.0	-1.086	1.401	-.888	1.329	**			
8		15.0	-1.051	1.378	-1.962	2.294	**			
9		20.0	-1.019	1.357	-1.925	3.541	**			
10		25.0	-.914	1.290	-5.132	16.676	**			
11		30.0	-.661	1.145	-1.216	3.819	**			
12		35.0	-.591	1.108	-.983	5.229	**			
13		40.0	-.481	1.051	-3.593	6.039	**			
14		45.0	-.433	1.027			**			
15		50.0	-.416	1.019	-2.127	-1.351	**			
16		55.0	-.371	.997	-1.443	-.949	**			
17		60.0	-.328	.976	-1.286	-.785	**			
18		65.0	-.285	.955	-.961	-.942	**			
19		70.0	-.224	.926	-.941	-.916	**			
20		75.0	-.162	.896	-.725	-.643	**			
21		80.0	-.107	.871	-.360	-.564	**			
22		85.0	-.039	.839			**			
23		90.0	.030	.807	-.211	-.242	**			
24		95.0	.106	.771			**			
	25	.5	.703	.477			**			
	26	1.5	.370	.647	4.416	-3.224	**			
	27	3.0	.276	.692			**			
	28	5.0	.162	.745	5.427	-2.605	**			
	29	7.5	.068	.789			**			
	30	10.0	.019	.812	2.797	-1.506	**			
	31	15.0	-.128	.880	2.393	-1.698	**			
	32	20.0	-.266	.946	2.911	-1.535	**			
	33	25.0	-.361	.992			**			
	34	30.0	-.468	1.045	2.311	-1.486	**			
	35	40.0	-.554	1.089	2.904	-.879	**			
	36	50.0	-.454	1.038	1.026	-.048	**			
	37	60.0	-.216	.922	.495	.162	**			
	38	70.0	.024	.809	.688	.255	**			
	39	80.0	.187	.734	.548	-.058	**			
	40	90.0	.287	.687	.581	-.133	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 2 ** RE	IM
Cz	UPPER	.452	.496	-.697
Cz	LOWER	-.123	.540	-.223
Cz	TOTAL	.329	1.037	-.920
Cm	UPPER	.017	.092	.063
Cm	LOWER	-.002	.049	.034
Cm	TOTAL	.015	.141	.097

9.48

*** LANN *** RUN 85 *** TABLE 9.18 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.799	.422			**			
2		.5	.153	.749			**			
3		1.5	-.494	1.058	-2.993	2.788	**			
4		3.0	-.761	1.201	-4.484	2.850	**			
5		5.0	-.886	1.273	-3.867	3.054	**			
6		7.5	-1.036	1.368			**			
7		10.0	-1.037	1.368	-1.634	1.722	**	-2.601	2.508	307
8		15.0	-1.050	1.377	-3.295	1.959	**			
9		20.0	-1.036	1.368	-2.501	2.178	**	-2.199	2.209	309
10		25.0	-1.020	1.357	-2.589	2.574	**			
		30.0					**			
12		35.0	-.669	1.150	-9.958	22.611	**			
13		40.0	-.447	1.034	-5.954	6.189	**	-7.369	6.213	313
14		45.0	-.393	1.008	-3.174	-1.380	**			
15		50.0	-.373	.998	-1.356	-2.993	**	-1.754	-3.561	315
16		55.0	-.343	.983	-1.174	-3.301	**			
17		60.0	-.318	.971	-.655	-2.297	**	-.555	-2.993	317
18		65.0	-.279	.952	-.101	-2.270	**			
19		70.0	-.231	.929	-.372	-1.638	**	-.260	-1.752	319
20		75.0	-.173	.902	-.319	-1.151	**			
21		80.0	-.112	.873	-.253	-.858	**	-.040	-.771	321
22		85.0	-.051	.844			**			
23		90.0	.019	.812	-.007	-.426	**	-.084	-.395	323
24		95.0	.101	.774			**			
	25	.5	.700	.479			**			
	26	1.5	.374	.645	5.131	-2.899	**			
	27	3.0	.260	.699	6.242	-4.063	**			
		5.0					**			
	29	7.5	.049	.798			**			
	30	10.0	-.028	.834	2.697	-1.188	**			
		15.0					**			
	32	20.0	-.272	.949	3.033	-1.402	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.419	1.021	1.180	-.180	**			
	37	60.0	-.192	.911	.501	.096	**			
	38	70.0	.039	.802	.506	.100	**			
	39	80.0	.200	.727	.438	-.132	**			
	40	90.0	.300	.681	.535	-.267	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.462	.722	-.589
Cz	LOWER	-.084	.490	-.194
Cz	TOTAL	.378	1.212	-.784
Cm	UPPER	.018	.078	.128
Cm	LOWER	.005	.036	.016
Cm	TOTAL	.023	.114	.144

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.840	.397			**			
2		.5	.218	.719			**			
3		1.5	-.389	1.006	-4.896	4.431	**			
4		3.0	-.692	1.162	-3.751	2.551	**			
5		5.0	-.857	1.256	-1.796	1.759	**	-2.457	2.609	405
6		7.5	-.948	1.312			**			
7		10.0					**	-1.855	2.630	407
8		15.0	-.968	1.324	-4.307	2.252	**			
9		20.0	-.984	1.334	-2.946	2.952	**	-2.461	2.880	409
10		25.0	-.978	1.330	-3.356	2.983	**			
		30.0					**			
12		35.0	-.883	1.272	-13.79	19.650	**			
13		40.0	-.497	1.060	-9.284	12.035	**	-16.65	21.274	413
14		45.0	-.394	1.008	-4.419	.623	**			
15		50.0	-.371	.997	-1.225	-4.525	**	-1.166	-4.533	415
16		55.0	-.361	.992	-1.014	-4.444	**			
17		60.0	-.343	.983	.307	-3.894	**	.291	-4.510	417
		65.0					**			
19		70.0	-.274	.950	.310	-2.472	**			
20		75.0	-.243	.935	.694	-2.074	**			
21		80.0	-.148	.890	.243	-1.060	**	.219	-1.356	421
22		85.0	-.060	.849			**			
23		90.0	.016	.813	-.023	-.491	**			
24		95.0	.092	.778			**			
	25	.5	.639	.512			**			
	26	1.5	.275	.692	4.741	-3.158	**			
	27	3.0	.157	.748	4.448	-3.232	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.171	.901	2.855	-1.593	**			
	32	20.0	-.282	.954	3.148	-1.701	**			
	33	25.0	-.362	.992			**			
		30.0					**			
	35	40.0	-.487	1.055	2.161	-.722	**			
	36	50.0	-.401	1.012	1.008	-.549	**			
	37	60.0	-.153	.892	.732	-.262	**			
	38	70.0	.062	.792	.414	.082	**			
	39	80.0	.227	.715	.583	-.314	**			
	40	90.0	.311	.675	.745	-.414	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.474	.858	-.561
Cz	LOWER	-.100	.542	-.281
Cz	TOTAL	.374	1.400	-.842
Cm	UPPER	.027	.058	.191
Cm	LOWER	.010	.048	-.001
Cm	TOTAL	.037	.107	.189

*** LANN *** RUN 85 *** TABLE 9.18 (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.845	.394			**			
2		.5	.306	.678			**			
3		1.5	-.252	.939	-4.598	4.953	**			
4		3.0	-.532	1.078	-3.281	4.056	**			
5		5.0	-.677	1.154	-5.478	6.902	**	-3.441	4.811	505
6		7.5	-.753	1.196			**			
7		10.0	-.820	1.234	-3.208	1.918	**			
		15.0					**			
9		20.0	-.826	1.238	-5.244	5.786	**			
10		25.0	-.841	1.246	-3.292	3.807	**			
11		30.0	-.858	1.257	-3.885	5.343	**			
		35.0					**			
13		40.0	-.504	1.063	-10.39	13.851	**			
14		45.0	-.410	1.016	-2.462	-4.183	**			
15		50.0	-.404	1.013	.752	-7.016	**			
16		55.0	-.398	1.010	.793	-5.060	**			
17		60.0	-.381	1.002	.911	-3.734	**			
18		65.0	-.359	.991	.689	-2.147	**			
19		70.0	-.326	.975	.853	-1.756	**	.958	-1.792	519
20		75.0	-.287	.956	.286	-.655	**			
21		80.0	-.207	.918	.445	-.452	**			
22		85.0	-.094	.864			**			
23		90.0	-.005	.823	.020	.151	**			
24		95.0	.089	.779			**			
	25	.5	.571	.548			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	-.139	.886	3.213	-2.569	**			
		15.0					**			
	32	20.0	-.306	.965	3.104	-2.296	**			
		25.0					**			
	34	30.0	-.413	1.017	2.037	-2.036	**			
		40.0					**			
	36	50.0	-.402	1.012	.633	-.573	**			
		60.0					**			
		70.0					**			
	39	80.0	.233	.712	.368	-.243	**			
	40	90.0	.317	.672	.326	-.277	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.439	.667	-.428
Cz	LOWER	-.098	.383	-.322
Cz	TOTAL	.341	1.049	-.750
Cm	UPPER	.039	-.053	.231
Cm	LOWER	.007	.038	-.035
Cm	TOTAL	.047	-.014	.196

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.835	.400			**			
		.5					**			
3		1.5	-.050	.844			**			
		3.0					**			
5		5.0	-.514	1.069	-4.802	6.160	**			
		7.5					**			
7		10.0	-.720	1.178	-2.375	1.792	**			
8		15.0	-.681	1.156	-5.460	5.690	**			
9		20.0	-.686	1.159			**			
10		25.0	-.790	1.217	-3.505	4.763	**			
11		30.0	-.803	1.224			**			
12		35.0	-.429	1.026	-11.13	8.616	**			
13		40.0	-.330	.977	2.371	-5.974	**			
14		45.0	-.359	.991	2.749	-5.297	**			
15		50.0	-.366	.994	2.156	-3.123	**			
16		55.0	-.358	.991	.869	-1.510	**			
17		60.0	-.344	.984	.486	-.695	**			
18		65.0	-.338	.980	.123	-.347	**			
19		70.0	-.324	.974	.116	-.112	**			
20		75.0	-.285	.955	.219	.224	**			
21		80.0	-.213	.921	-.105	.313	**			
22		85.0	-.087	.861			**			
23		90.0	.024	.809	-.126	.351	**			
24		95.0	.109	.770			**			
	25	.5	.398	.634			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.309	.967	3.064	-2.464	**			
		20.0					**			
	33	25.0	-.403	1.013			**			
	34	30.0	-.408	1.015	1.414	-.585	**			
	35	40.0	-.408	1.015	.330	-.290	**			
	36	50.0	-.318	.971	.268	.007	**			
		60.0					**			
		70.0					**			
	39	80.0	.235	.711	-.029	-.140	**			
	40	90.0	.300	.680	.223	.011	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.366	.503	-.395
Cz	LOWER	-.094	.203	-.137
Cz	TOTAL	.272	.706	-.531
Cm	UPPER	.037	-.087	.137
Cm	LOWER	.013	-.003	.011
Cm	TOTAL	.051	-.091	.148

*** LANN *** RUN 143 ***

TABLE 9.19a

TEST CONDITIONS		NORM. COEFF. Cz RE	NORM. COEFF. Czi IM	MOM. COEFF. Cm RE	MOM. COEFF. Cmi IM
RUNNR. = 143		SECT.1	.484 1.628 -.275	.022 .209 .105
		SECT.2	.534 1.823 -.505	.021 .303 .018
ALFA = 2.60 (DEG)		SECT.3	.598 1.980 .039	.037 .607 .054
MACH = .822		SECT.4	.567 .719 1.366	.048 .435 .590
RE*10**-6= 5.32		SECT.5	.515 -.746 1.574	.042 -.782 .731
Q =45.08 (KPA)		SECT.6	.414 .355 .714	.041 -.333 .126
P-SETTL. =148.6 (KPA)				
T-SETTL. =30.00		WING	.508 1.202 .252	.048 -.345 .832
				(WING : CM ABOUT
DALFA = .249 (DEG)				AERODYN. CENTER)
FREQ. =24.00 (Hz)				
REDFR. = .075				
HARM. = 1				

	DISPLACEMENTS REL.TO LVDT AMPL.(-)	DISPLACEMENTS REL.TO LVDT PHASE (DEG)	VIBRATION MODE **Y/(B/2)	VIBRATION MODE HEAVE AT X=.224 M (MM)	VIBRATION MODE PITCH (DEG)
LVDT	1.00	0.00	.000		
CALC. 1	1.02	5.05	.100		
ACC. 2	.27	12.67	.100	.05	.22
ACC. 3	.65	-182.11	.100		
ACC. 4	.56	-177.48	.420		
ACC. 5	1.35	-191.17	.420	.29	.24
ACC. 6	1.95	-185.76	.420		
ACC. 7	2.59	-190.29	.700		
CALC. 8	3.11	-190.28	.700	.78	.23
CALC. 9	3.57	-188.42	.700		
CALC.10	4.28	-191.14	.920		
ACC.11	4.73	-190.51	.920	1.01	.27
ACC.12	5.18	-189.98	.920		

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.667	.498					
2		.5	-.032	.837					
3		1.5	-.709	1.173	-4.718	2.182			
4		3.0	-1.058	1.385	-5.927	1.025			
5		5.0	-1.109	1.420			-5.308	1.362	105
6		7.5	-1.179	1.470					
7		10.0	-1.201	1.487	-3.362	1.368			
8		15.0	-1.158	1.455	-3.045	1.510			
9		20.0	-1.132	1.436	-4.083	1.940			
10		25.0	-.854	1.256	-19.25	8.492			
11		30.0	-.732	1.186	-4.130	1.941			
12		35.0	-.710	1.174					
13		40.0	-.704	1.171	-2.674	1.487			
14		45.0	-.725	1.182	-2.429	1.375			
15		50.0	-.753	1.198	-2.364	1.160			
16		55.0	-.503	1.064	-15.24	4.558			
17		60.0	-.327	.977	-1.534	-1.593			
18		65.0	-.270	.949	.155	-1.887			
19		70.0	-.212	.922	.308	-1.490	.491	-1.573	119
20		75.0	-.159	.896	.098	-.837			
21		80.0	-.100	.869	.191	-.394			
22		85.0	-.026	.834					
23		90.0	.032	.807	.121	-.246			
24		95.0	.102	.774					
	25	.5	.789	.429					
	26	1.5	.504	.582	3.424	.468			
	27	3.0	.426	.621	3.917	1.146			
	28	5.0	.335	.665	3.794	.063			
	29	7.5	.187	.734					
		10.0							
	31	15.0	.002	.821	2.426	-.323			
	32	20.0	-.134	.884	3.213	-.198			
	33	25.0	-.228	.929					
	34	30.0	-.337	.981	3.285	-.009			
	35	40.0	-.374	1.000	1.904	-.144			
	36	50.0	-.402	1.013	2.117	.073			
	37	60.0	-.211	.921	1.315	.824			
	38	70.0	.023	.811	.741	.501			
	39	80.0	.192	.732	.411	.364			
	40	90.0	.295	.683	.358	.264			

OVERALL COEFFICIENTS		STEADY	SECTION 1 RE	SECTION 1 IM
Cz	UPPER	.537	1.081	-.335
Cz	LOWER	-.053	.547	.059
Cz	TOTAL	.484	1.628	-.275
Cm	UPPER	.022	.125	.051
Cm	LOWER	-.001	.084	.053
Cm	TOTAL	.022	.209	.105

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.696	.482					
2		.5	.009	.817					
3		1.5	-.748	1.195	-5.616	1.394			
4		3.0	-.995	1.344	-4.925	.628			
5		5.0	-1.105	1.417	-4.532	1.191			
6		7.5	-1.223	1.504					
7		10.0	-1.233	1.512	-3.189	.850			
8		15.0	-1.201	1.487	-3.357	1.358			
9		20.0	-1.186	1.475	-1.880	.825			
10		25.0	-1.174	1.466	-2.861	1.469			
11		30.0	-1.174	1.467	-2.791	1.579			
12		35.0	-1.128	1.434	-5.213	3.079			
13		40.0	-.943	1.310	-25.07	17.079			
14		45.0	-.677	1.156					
15		50.0	-.478	1.051	-9.783	2.315			
16		55.0	-.365	.995	-4.686	-.175			
17		60.0	-.290	.959	-.581	-2.287			
18		65.0	-.243	.936	.930	-2.407			
19		70.0	-.188	.910	1.160	-1.899			
20		75.0	-.134	.884	.643	-1.226			
21		80.0	-.085	.861	.635	-.655			
22		85.0	-.023	.832					
23		90.0	.041	.803	.188	-.317			
24		95.0	.112	.770					
	25	.5	.788	.430					
	26	1.5	.506	.581	4.580	.609			
	27	3.0	.401	.633					
	28	5.0	.277	.692	1.821	-.525			
	29	7.5	.186	.735					
	30	10.0	.130	.761	2.759	-.411			
	31	15.0	-.016	.829	2.638	-.544			
	32	20.0	-.150	.892	3.619	-.430			
	33	25.0	-.243	.936					
	34	30.0	-.335	.981	3.800	-.245			
	35	40.0	-.413	1.019	2.722	-.290			
	36	50.0	-.377	1.001	1.660	-.030			
	37	60.0	-.179	.905	1.275	.663			
	38	70.0	.048	.799	.635	.363			
	39	80.0	.210	.724	.399	.283			
	40	90.0	.307	.678	.346	.193			

OVERALL COEFFICIENTS		STEADY	SECTION 2 RE	SECTION 2 IM
Cz	UPPER	.583	1.240	-.508
Cz	LOWER	-.049	.583	.003
Cz	TOTAL	.534	1.823	-.505
Cm	UPPER	.017	.222	-.026
Cm	LOWER	.004	.080	.044
Cm	TOTAL	.021	.303	.018

*** LANN *** RUN 143 ***

TABLE 9.19a (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.720	.469			**			
2		.5	-.010	.826			**			
3		1.5	-.698	1.167	-5.956	.985	**			
4		3.0	-.991	1.341	-6.573	.205	**			
5		5.0	-1.092	1.408	-5.976	.559	**			
6		7.5	-1.199	1.486			**			
7		10.0	-1.190	1.478	-3.574	.821	**	-4.175	.820	307
8		15.0	-1.204	1.490	-2.932	1.578	**			
9		20.0	-1.179	1.471	-3.627	1.192	**	-4.351	.889	309
10		25.0	-1.173	1.466	-3.561	.860	**			
		30.0					**			
12		35.0	-1.163	1.459	-4.493	2.239	**			
13		40.0	-1.150	1.449	-3.707	-1.644	**	-4.752	.024	313
14		45.0	-.662	1.147	-2.621	-4.892	**			
15		50.0	-.587	1.108	-4.983	-.479	**	-6.011	-.524	315
16		55.0	-.515	1.071	-10.80	.523	**			
17		60.0	-.411	1.018	-12.92	2.716	**	-13.02	1.402	317
18		65.0	-.307	.967	-12.41	2.373	**			
19		70.0	-.210	.920	-7.215	1.575	**	-6.654	.901	319
20		75.0	-.137	.886	-2.534	.675	**			
21		80.0	-.078	.858	-.715	.206	**	.268	-.290	321
22		85.0	-.020	.831			**			
23		90.0	.034	.806	-.257	.247	**	-.029	.137	323
24		95.0	.102	.774			**			
	25	.5	.792	.427			**			
	26	1.5	.519	.575	4.544	1.377	**			
	27	3.0	.403	.632	4.411	1.717	**			
		5.0					**			
	29	7.5	.178	.739			**			
	30	10.0	.094	.778	2.769	-.046	**			
		15.0					**			
	32	20.0	-.148	.891	3.881	.235	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.345	.986	1.949	.969	**			
	37	60.0	-.157	.895	.784	1.107	**			
	38	70.0	.059	.794	.187	.786	**			
	39	80.0	.220	.719	.071	.804	**			
	40	90.0	.315	.674	.088	.745	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.615	1.438	-.172
Cz	LOWER	-.017	.550	.211
Cz	TOTAL	.598	1.988	.039
Cm	UPPER	.027	.579	-.064
Cm	LOWER	.009	.028	.118
Cm	TOTAL	.037	.607	.054

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.773	.438			**			
2		.5	.032	.807			**			
3		1.5	-.669	1.151	-8.280	.100	**			
4		3.0	-.888	1.277	-5.195	.018	**			
5		5.0	-1.056	1.384	-4.549	.032	**	-5.992	.776	405
6		7.5	-1.123	1.430			**			
7		10.0					**	-3.944	.700	407
8		15.0	-1.136	1.439	-5.218	.608	**			
9		20.0	-1.144	1.445	-4.702	.704	**	-5.173	.602	409
10		25.0	-1.135	1.438	-5.266	.854	**			
		30.0					**			
12		35.0	-1.135	1.439	-.199	-1.670	**			
13		40.0	-.858	1.258	48.576	-33.73	**	49.923	-33.55	413
14		45.0	-.621	1.126	13.661	-8.064	**			
15		50.0	-.560	1.094	4.763	-3.883	**	2.204	-3.561	415
16		55.0	-.506	1.066	.239	-4.579	**			
17		60.0	-.436	1.030	-3.663	-4.284	**	-3.821	-3.600	417
		65.0					**			
19		70.0	-.274	.951	-9.062	-2.998	**			
20		75.0	-.198	.915	-9.386	-1.122	**			
21		80.0	-.140	.887	-9.005	.294	**	-9.725	.514	421
22		85.0	-.079	.859			**			
23		90.0	-.030	.835	-14.46	3.592	**			
24		95.0	.020	.812			**			
	25	.5	.750	.452			**			
	26	1.5	.444	.612	4.898	1.835	**			
	27	3.0	.315	.674	4.442	1.458	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.044	.842	2.945	.313	**			
	32	20.0	-.156	.895	3.834	.900	**			
	33	25.0	-.237	.933			**			
		30.0					**			
	35	40.0	-.369	.997	2.014	1.998	**			
	36	50.0	-.343	.985	-.132	2.032	**			
	37	60.0	-.133	.884	-1.613	2.350	**			
	38	70.0	.064	.792	-2.289	1.920	**			
	39	80.0	.231	.714	-2.255	1.772	**			
	40	90.0	.306	.679	-2.749	2.091	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.602	.552	.858
Cz	LOWER	-.035	.167	.508
Cz	TOTAL	.567	.719	1.366
Cm	UPPER	.039	.785	.297
Cm	LOWER	.010	-.350	.293
Cm	TOTAL	.048	.435	.590

*** LANN *** RUN 143 ***

TABLE 9.19a (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.782	.433			**			
2		.5	.105	.773			**			
3		1.5	-.461	1.043	-4.959	-.463	**			
4		3.0	-.798	1.224	-5.172	-.532	**			
5		5.0	-.914	1.292	-6.741	-.528	**	-6.144	.172	505
6		7.5	-.968	1.326			**			
7		10.0	-1.017	1.358	-5.619	-.498	**			
		15.0					**			
9		20.0	-1.049	1.379	-5.785	-.425	**			
10		25.0	-1.042	1.374	-5.867	.098	**			
11		30.0	-1.060	1.387	-4.528	.157	**			
		35.0					**			
13		40.0	-.996	1.344	20.606	-7.400	**			
14		45.0	-.722	1.180	43.125	-26.01	**			
15		50.0	-.524	1.075	11.208	-7.725	**			
16		55.0	-.432	1.028	4.119	-8.124	**			
17		60.0	-.349	.988	.185	-7.221	**			
18		65.0	-.283	.955	-.263	-5.419	**			
19		70.0	-.227	.929	.444	-2.654	**	-1.185	-2.412	519
20		75.0	-.186	.909	.880	-.462	**			
21		80.0	-.133	.884	.625	-.146	**			
22		85.0	-.064	.852			**			
23		90.0	-.010	.826	-5.818	.645	**			
24		95.0	.052	.797			**			
	25	.5	.703	.478			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	.005	.819	2.673	.645	**			
		15.0					**			
	32	20.0	-.180	.906	3.448	1.791	**			
		25.0					**			
	34	30.0	-.300	.964	2.019	2.395	**			
		40.0					**			
	36	50.0	-.366	.996	-1.934	2.145	**			
		60.0					**			
		70.0					**			
	39	80.0	.234	.712	-2.369	1.127	**			
	40	90.0	.312	.676	-2.313	1.079	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.554	-.659	1.105
Cz	LOWER	-.039	-.087	.469
Cz	TOTAL	.515	-.746	1.574
Cm	UPPER	.035	-.428	.513
Cm	LOWER	.007	-.354	.217
Cm	TOTAL	.042	-.782	.731

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.773	.438			**			
		.5					**			
3		1.5	-.286	.957			**			
		3.0					**			
5		5.0	-.754	1.199	-5.829	-1.471	**			
		7.5					**			
7		10.0	-.870	1.266	-7.310	-2.622	**			
8		15.0	-.908	1.289	-5.090	-1.395	**			
9		20.0	-.963	1.323	-3.207	-1.468	**			
10		25.0	-.997	1.345	-4.864	-1.431	**			
11		30.0	-1.032	1.367			**			
12		35.0	-1.065	1.390	-3.224	-1.165	**			
13		40.0	.545	1.086	2.613	-10.79	**			
14		45.0	-.387	1.006	-2.431	-9.253	**			
15		50.0	-.288	.958	-.980	-5.037	**			
16		55.0	-.258	.943	1.434	.441	**			
17		60.0	-.265	.947	2.045	1.446	**			
18		65.0	-.281	.954	1.921	1.108	**			
19		70.0	-.284	.956	1.796	.490	**			
20		75.0	-.266	.947	1.129	-.118	**			
21		80.0	-.212	.921	.671	-.077	**			
22		85.0	-.097	.867			**			
23		90.0	.009	.817	-.055	-.113	**			
24		95.0	.094	.778			**			
	25	.5	.592	.537			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.182	.907	2.453	1.241	**			
		20.0					**			
	33	25.0	-.315	.971			**			
	34	30.0	-.346	.986	.053	1.747	**			
	35	40.0	-.379	1.002	-.768	.887	**			
	36	50.0	-.315	.971	-1.626	.508	**			
		60.0					**			
		70.0					**			
	39	80.0	.233	.713	-.485	.160	**			
	40	90.0	.301	.681	-.219	.078	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.464	.423	.529
Cz	LOWER	-.050	-.068	.184
Cz	TOTAL	.414	.355	.714
Cm	UPPER	.031	-.199	.091
Cm	LOWER	.009	-.134	.034
Cm	TOTAL	.041	-.333	.126

*** LANN *** RUN 144 ***

TABLE 9.19b

TEST CONDITIONS		NORM. COEFF. Cz RE	NORM. COEFF. Czi IM	MOM. COEFF. Cm RE	MOM. COEFF. Cmi IM	DISPLACEMENTS REL.TO LVDT AMPL.(-)	DISPLACEMENTS REL.TO LVDT PHASE (DEG)	VIBRATION MODE **Y/(B/2)	VIBRATION MODE HEAVE AT X=.224 M (MM)	VIBRATION MODE PITCH (DEG)
RUNNR. = 144		SECT.1 .484	.087	-.018	.022	-.027	-.028	LVDT	1.00	0.00	** .000		
		SECT.2 .533	.008	-.123	.021	-.015	-.041	CALC. 1	6.24	20.78	** .100		
ALFA = 2.60 (DEG)		SECT.3 .598	-.010	.016	.037	-.036	.009	ACC. 2	4.52	28.94	** .100	.02	.01
MACH = .821		SECT.4 .568	-.022	-.520	.049	-.093	-.171	ACC. 3	2.73	52.15	** .100		
RE*10**-6= 5.32		SECT.5 .518	.142	-.540	.043	-.017	-.141	ACC. 4	13.79	14.37	** .420		
Q =45.03 (KPA)		SECT.6 .414	.047	-.167	.041	.042	-.032	ACC. 5	11.39	42.08	** .420	.09	.02
P-SETTL. =148.5 (KPA)								ACC. 6	10.09	47.10	** .420		
T-SETTL. =30.00		WING .508	.043	-.170	.048	-.043	-.218	ACC. 7	23.82	38.99	** .700		
					(WING : CM ABOUT			CALC. 8	24.20	39.61	** .700	.16	.00
DALFA = .249 (DEG)					AERODYN. CENTER)			CALC. 9	23.81	39.98	** .700		
FREQ. =24.00 (Hz)								CALC.10	37.90	38.07	** .920		
REDFR. = .075								ACC.11	38.72	37.43	** .920	.22	.01
HARM. = 2								ACC.12	39.55	36.81	** .920		

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.666	.498			**			
2		.5	-.032	.836			**			
3		1.5	-.709	1.172	-1.837	.501	**			
4		3.0	-1.058	1.384	-1.149	1.140	**			
5		5.0	-1.109	1.419			**	.011	.013	105
6		7.5	-1.179	1.469			**			
7		10.0	-1.200	1.485	-1.050	-.589	**			
8		15.0	-1.157	1.453	-1.535	-.180	**			
9		20.0	-1.131	1.435	-.941	.094	**			
10		25.0	-.859	1.259	-1.671	.414	**			
11		30.0	-.732	1.185	-.482	-.339	**			
12		35.0	-.710	1.173			**			
13		40.0	-.702	1.169	-.448	.009	**			
14		45.0	-.725	1.182	-.583	.162	**			
15		50.0	-.753	1.197	-.276	.298	**			
16		55.0	-.500	1.062	.212	.600	**			
17		60.0	-.328	.976	.245	-.175	**			
18		65.0	-.270	.949	.038	.257	**			
19		70.0	-.212	.921	-.309	.423	**	.069	.109	119
20		75.0	-.159	.896	-.215	.169	**			
21		80.0	-.100	.868	-.200	.178	**			
22		85.0	-.027	.834			**			
23		90.0	.032	.806	-.162	.208	**			
24		95.0	.102	.774			**			
	25	.5	.789	.428			**			
	26	1.5	.504	.582	-.404	.121	**			
	27	3.0	.425	.621	-.271	-.149	**			
	28	5.0	.335	.665	.067	-.070	**			
	29	7.5	.187	.734			**			
		10.0					**			
	31	15.0	.003	.820	-.219	.267	**			
	32	20.0	-.133	.883	-.339	-.123	**			
	33	25.0	-.228	.928			**			
	34	30.0	-.337	.981	-.363	.034	**			
	35	40.0	-.376	1.000	-.469	.203	**			
	36	50.0	-.398	1.011	-.424	.186	**			
	37	60.0	-.211	.920	-.143	-.111	**			
	38	70.0	.023	.810	-.176	.155	**			
	39	80.0	.191	.732	-.127	-.044	**			
	40	90.0	.295	.683	-.123	-.017	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 1 ** RE	IM
Cz	UPPER	.537	.162	-.032
Cz	LOWER	-.052	-.075	.014
Cz	TOTAL	.484	.087	-.018
Cm	UPPER	.022	-.001	-.032
Cm	LOWER	-.001	-.026	.004
Cm	TOTAL	.022	-.027	-.028

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.695	.482			**			
2		.5	.010	.817			**			
3		1.5	-.747	1.194	-.446	.909	**			
4		3.0	-.995	1.343	-.309	1.197	**			
5		5.0	-1.106	1.417	0.000	0.000	**			
6		7.5	-1.224	1.503			**			
7		10.0	-1.233	1.510	-.301	.510	**			
8		15.0	-1.201	1.486	.434	.224	**			
9		20.0	-1.185	1.474	.179	-.390	**			
10		25.0	-1.173	1.465	-.291	.724	**			
11		30.0	-1.173	1.465	0.000	0.000	**			
12		35.0	-1.129	1.433	.168	.731	**			
13		40.0	-.922	1.297	-1.373	3.119	**			
14		45.0	-.675	1.154			**			
15		50.0	-.474	1.049	-.082	-.480	**			
16		55.0	-.365	.995	.318	-.444	**			
17		60.0	-.290	.958	.389	.067	**			
18		65.0	-.243	.936	.283	.318	**			
19		70.0	-.188	.909	-.034	.474	**			
20		75.0	-.133	.884	.025	.110	**			
21		80.0	-.085	.861	.030	.107	**			
22		85.0	-.023	.832			**			
23		90.0	.041	.802	.096	.197	**			
24		95.0	.112	.769			**			
	25	.5	.788	.429			**			
	26	1.5	.506	.581	.246	.133	**			
	27	3.0	.401	.633			**			
	28	5.0	.276	.692	.146	-.005	**			
	29	7.5	.185	.735			**			
	30	10.0	.129	.761	-.082	.095	**			
	31	15.0	-.017	.829	.012	.118	**			
	32	20.0	-.149	.891	0.000	0.000	**			
	33	25.0	-.243	.936			**			
	34	30.0	-.336	.980	.016	.175	**			
	35	40.0	-.415	1.020	-.159	.011	**			
	36	50.0	-.375	.999	-.139	.014	**			
	37	60.0	-.179	.905	-.016	-.118	**			
	38	70.0	.048	.799	.025	.093	**			
	39	80.0	.210	.724	.038	.079	**			
	40	90.0	.307	.678	-.098	-.135	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 2 ** RE	IM
Cz	UPPER	.582	.015	-.132
Cz	LOWER	-.049	-.007	.008
Cz	TOTAL	.533	.008	-.123
Cm	UPPER	.017	-.007	-.037
Cm	LOWER	.004	-.008	-.004
Cm	TOTAL	.021	-.015	-.041

*** LANN *** RUN 144 ***

TABLE 9.19b (cont'd)

NR UP	NR LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.720	.468			**			
2		.5	-.010	.826			**			
3		1.5	-.697	1.166	-.503	.013	**			
4		3.0	-.990	1.339	-.698	-.173	**			
5		5.0	-1.092	1.407	-1.580	-.601	**			
6		7.5	-1.199	1.485			**			
7		10.0	-1.189	1.477	-.633	-.365	**	.025	.008	307
8		15.0	-1.203	1.488	-.534	-.286	**			
9		20.0	-1.178	1.469	-.949	-.445	**	-.056	.123	309
10		25.0	-1.172	1.464	-.441	-.186	**			
		30.0					**			
12		35.0	-1.163	1.457	-.801	-.266	**			
13		40.0	-1.143	1.443	1.908	.485	**	.406	.329	313
14		45.0	-.662	1.147	-.163	1.011	**			
15		50.0	-.586	1.107	-.501	.486	**	-.142	.683	315
16		55.0	-.515	1.070	-.501	1.503	**			
17		60.0	-.411	1.018	-.558	.929	**	.367	.436	317
18		65.0	-.309	.968	-.165	-.121	**			
19		70.0	-.213	.921	.389	-1.011	**	.768	-1.070	319
20		75.0	-.137	.885	.156	-1.122	**			
21		80.0	-.075	.856	-.132	-.930	**	.066	-.508	321
22		85.0	-.021	.831			**			
23		90.0	.035	.805	-.398	-.243	**	-.104	-.248	323
24		95.0	.102	.774			**			
	25	.5	.793	.426			**			
	26	1.5	.519	.574	-.221	.067	**			
	27	3.0	.402	.632	-.636	.440	**			
		5.0					**			
	29	7.5	.177	.739			**			
	30	10.0	.094	.778	-.225	.017	**			
		15.0					**			
	32	20.0	-.148	.890	-.372	.042	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.342	.984	-.546	-.290	**			
	37	60.0	-.157	.895	-.162	-.122	**			
	38	70.0	.059	.794	-.360	-.030	**			
	39	80.0	.220	.719	-.275	-.113	**			
	40	90.0	.315	.674	-.277	-.066	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.615	.095	.035
Cz	LOWER	-.016	-.105	-.019
Cz	TOTAL	.598	-.010	.016
Cm	UPPER	.027	.008	.029
Cm	LOWER	.010	-.044	-.020
Cm	TOTAL	.037	-.036	.009

NR UP	NR LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.773	.438			**			
2		.5	.033	.806			**			
3		1.5	-.667	1.150	-.816	.028	**			
4		3.0	-.888	1.276	-1.038	-.128	**			
5		5.0	-1.056	1.383	-.631	-.210	**	.040	.052	405
6		7.5	-1.123	1.429			**			
7		10.0					**	-.021	.080	407
8		15.0	-1.135	1.437	-.459	-1.450	**			
9		20.0	-1.143	1.443	-.222	-.628	**	.017	.078	409
10		25.0	-1.134	1.437	-.390	-.165	**			
		30.0					**			
12		35.0	-1.129	1.433	-1.021	5.235	**			
13		40.0	-.879	1.270	-.512	17.056	**	.080	13.118	413
14		45.0	-.623	1.126	-1.444	-1.262	**			
15		50.0	-.561	1.094	-.994	1.053	**	-.395	.803	415
16		55.0	-.508	1.066	-.420	1.560	**			
17		60.0	-.436	1.030	-.521	2.075	**	-.306	1.729	417
		65.0					**			
19		70.0	-.277	.952	.001	1.677	**			
20		75.0	-.197	.914	1.046	.387	**			
21		80.0	-.134	.884	1.187	-.572	**	1.249	-.511	421
22		85.0	-.085	.861			**			
23		90.0	-.026	.833	.985	-2.208	**			
24		95.0	.023	.811			**			
	25	.5	.751	.451			**			
	26	1.5	.444	.612	-.248	-.136	**			
	27	3.0	.315	.674	-.263	-.147	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.044	.842	-.277	-.227	**			
	32	20.0	-.155	.894	-.196	-.305	**			
	33	25.0	-.236	.932			**			
		30.0					**			
	35	40.0	-.372	.998	-.383	-.637	**			
	36	50.0	-.339	.982	-.360	-.695	**			
	37	60.0	-.133	.883	-.288	-.320	**			
	38	70.0	.065	.791	-.178	-.351	**			
	39	80.0	.231	.714	-.115	-.539	**			
	40	90.0	.306	.678	-.211	-.602	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.602	.055	-.388
Cz	LOWER	-.034	-.077	-.132
Cz	TOTAL	.568	-.022	-.520
Cm	UPPER	.039	-.063	-.095
Cm	LOWER	.010	-.029	-.076
Cm	TOTAL	.049	-.093	-.171

*** L.ANN *** RUN 144 ***

TABLE 9.19b (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.782	.433			**			
2		.5	.106	.772			**			
3		1.5	-.461	1.042	0.000	0.000	**			
4		3.0	-.799	1.223	.516	.536	**			
5		5.0	-.913	1.291	0.000	0.000	**	.075	.142	505
6		7.5	-.969	1.326			**			
7		10.0	-1.016	1.356	0.000	0.000	**			
		15.0					**			
9		20.0	-1.047	1.377	0.000	0.000	**			
10		25.0	-1.041	1.373	.422	.165	**			
11		30.0	-1.059	1.385	.302	-.798	**			
		35.0					**			
13		40.0	-1.017	1.356	-5.281	14.198	**			
14		45.0	-.721	1.180	-4.465	3.053	**			
15		50.0	-.524	1.075	-1.703	.821	**			
16		55.0	-.433	1.029	-1.020	2.276	**			
17		60.0	-.350	.987	-.448	2.440	**			
18		65.0	-.284	.955	.078	1.648	**			
19		70.0	-.228	.928	.702	.546	**	.822	.567	519
20		75.0	-.185	.908	.555	-.458	**			
21		80.0	-.132	.883	.910	-1.026	**			
22		85.0	-.066	.852			**			
23		90.0	-.009	.825	1.996	-1.891	**			
24		95.0	.053	.797			**			
	25	.5	.704	.477			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	.003	.820	.108	-.269	**			
		15.0					**			
	32	20.0	-.179	.905	-.080	-.779	**			
		25.0					**			
	34	30.0	-.300	.963	-.038	-.422	**			
		40.0					**			
	36	50.0	-.362	.993	-.045	-.532	**			
		60.0					**			
		70.0					**			
	39	80.0	.234	.712	.275	-.418	**			
	40	90.0	.312	.675	.138	-.385	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.556	.124	-.405
Cz	LOWER	-.038	.017	-.135
Cz	TOTAL	.518	.142	-.540
Cm	UPPER	.036	-.037	-.077
Cm	LOWER	.007	.020	-.064
Cm	TOTAL	.043	-.017	-.141

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.773	.438			**			
		.5					**			
3		1.5	-.285	.956			**			
		3.0					**			
5		5.0	-.753	1.197	.003	.550	**			
		7.5					**			
7		10.0	-.870	1.265	0.000	0.000	**			
8		15.0	-.907	1.287	.654	-1.808	**			
9		20.0	-.961	1.321	0.000	0.000	**			
10		25.0	-.997	1.344	.786	.864	**			
11		30.0	-1.031	1.366			**			
12		35.0	-1.064	1.388	-.515	1.334	**			
13		40.0	-.537	1.081	.262	2.289	**			
14		45.0	-.387	1.005	-.699	2.028	**			
15		50.0	-.287	.957	-.868	1.600	**			
16		55.0	-.258	.943	-.322	-.117	**			
17		60.0	-.265	.946	.049	-.929	**			
18		65.0	-.281	.954	.067	-.779	**			
19		70.0	-.284	.955	-.069	-.607	**			
20		75.0	-.265	.946	.133	-.168	**			
21		80.0	-.212	.921	-.162	-.126	**			
22		85.0	-.098	.867			**			
23		90.0	.009	.817	0.000	0.000	**			
24		95.0	.094	.778			**			
	25	.5	.594	.536			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.183	.907	-.069	-.692	**			
		20.0					**			
	33	25.0	-.314	.970			**			
	34	30.0	-.346	.985	.228	-.268	**			
	35	40.0	-.382	1.003	.195	-.467	**			
	36	50.0	-.312	.969	.351	-.426	**			
		60.0					**			
		70.0					**			
	39	80.0	.232	.713	0.000	0.000	**			
	40	90.0	.301	.680	.151	-.168	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.463	.010	-.084
Cz	LOWER	-.049	.037	-.082
Cz	TOTAL	.414	.047	-.167
Cm	UPPER	.031	.019	-.008
Cm	LOWER	.009	.023	-.024
Cm	TOTAL	.041	.042	-.032

*** L.ANN *** RUN 145 ***

TABLE 9.19c

TEST CONDITIONS		NORM. COEFF. Cz RE	NORM. COEFF. Czi IM	MOM. COEFF. Cm RE	MOM. COEFF. Cmi IM	DISPLACEMENTS REL.TO LVDT AMPL.(-)	DISPLACEMENTS REL.TO LVDT PHASE (DEG)	VIBRATION MODE **Y/(B/2)	VIBRATION MODE HEAVE AT X=.224 M (MM)	VIBRATION MODE PITCH (DEG)
RUNNR. = 145	!SECT.1	.486	.009	-.042	.022	-.028	.014	LVDT	1.00	0.00	** .000		
	!SECT.2	.535	.027	-.047	.021	-.005	-.012	!CALC. 1!	14.69	-7.66	** .100		
ALFA = 2.60 (DEG)	!SECT.3	.599	-.016	.037	.037	-.015	-.018	ACC. 2!	6.00	-9.84	** .100	.01	.02
MACH = .821	!SECT.4	.565	.121	.069	.047	-.007	.036	ACC. 3!	4.45	-181.04	** .100		
RE*10**-6= 5.32	!SECT.5	.516	-.133	.166	.042	-.029	.024	ACC. 4!	25.30	-15.80	** .420		
Q =44.96 (KPA)	!SECT.6	.415	-.035	.092	.041	-.005	.001	ACC. 5!	2.51	-22.97	** .420	.08	.03
P-SETTL. =148.4 (KPA)								ACC. 6!	4.86	-150.78	** .420		
T-SETTL. =30.00	WING	.509	.007	.018	.048	-.036	.077	ACC. 7!	9.81	-21.77	** .700		
					!(WING	CM ABOUT		!CALC. 8!	4.05	-23.02	** .700	.07	.02
DALFA = .249 (DEG)					! AERODYN. CENTER)			!CALC. 9!	2.62	-100.08	** .700		
FREQ. =24.00 (Hz)								!CALC.10!	11.41	-17.87	** .920		
REDFR. = .075								! ACC.11!	8.27	-17.55	** .920	.10	.01
HARM. = 3								! ACC.12!	5.09	-16.82	** .920		

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY!	M-LOC.!	Cp RE	Cp IM	**	CALIBRATION (TRANSD.)! Cp RE	Cp IM	NR.!
1		0.0	.667	.497			**			
2		.5	-.032	.836			**			
3		1.5	-.710	1.172	-.385	.784	**			
4		3.0	-1.059	1.383	-1.346	3.075	**			
5		5.0	-1.111	1.419			**	-.013	.013	105
6		7.5	-1.180	1.468			**			
7		10.0	-1.202	1.485	.094	.732	**			
8		15.0	-1.159	1.453	-.563	.784	**			
9		20.0	-1.134	1.435	.114	.603	**			
10		25.0	-.854	1.255	-.138	-.280	**			
11		30.0	-.733	1.185	-.204	.344	**			
12		35.0	-.712	1.174			**			
13		40.0	-.706	1.170	.048	.334	**			
14		45.0	-.724	1.180	-.040	.208	**			
15		50.0	-.755	1.197	.165	.251	**			
16		55.0	-.513	1.068	2.015	1.244	**			
17		60.0	-.330	.977	.320	-.013	**			
18		65.0	-.269	.948	.044	.257	**			
19		70.0	-.213	.921	-.027	-.111	**	-.080	.021	119
20		75.0	-.159	.895	-.055	.075	**			
21		80.0	-.100	.867	.082	.070	**			
22		85.0	-.027	.833			**			
23		90.0	.031	.806	.012	.105	**			
24		95.0	.101	.774			**			
	25	.5	.789	.428			**			
	26	1.5	.504	.581	.362	.442	**			
	27	3.0	.424	.621	.597	.279	**			
	28	5.0	.336	.664	.050	.187	**			
	29	7.5	.188	.733			**			
		10.0					**			
	31	15.0	.003	.819	.048	.520	**			
	32	20.0	-.133	.883	.104	.135	**			
	33	25.0	-.229	.928			**			
	34	30.0	-.335	.979	.071	.425	**			
	35	40.0	-.376	1.000	.318	.422	**			
	36	50.0	-.402	1.012	-.156	.322	**			
	37	60.0	-.212	.920	-.003	.178	**			
	38	70.0	.024	.810	.086	.258	**			
	39	80.0	.192	.731	.130	-.004	**			
	40	90.0	.296	.683	.003	.081	**			

OVERALL COEFFICIENTS		STEADY!	** SECTION 1 ** RE	IM
Cz	UPPER	.538	-.017	-.117
Cz	LOWER	-.053	.026	.075
Cz	TOTAL	.486	.009	-.042
Cm	UPPER	.023	-.032	-.005
Cm	LOWER	-.001	.004	.019
Cm	TOTAL	.022	-.028	.014

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY!	M-LOC.!	Cp RE	Cp IM	**	CALIBRATION (TRANSD.)! Cp RE	Cp IM	NR.!
1		0.0	.696	.481			**			
2		.5	.010	.816			**			
3		1.5	-.748	1.194	0.000	0.000	**			
4		3.0	-.997	1.342	-1.600	.325	**			
5		5.0	-1.108	1.417	.865	.630	**			
6		7.5	-1.223	1.501			**			
7		10.0	-1.234	1.509	0.000	0.000	**			
8		15.0	-1.202	1.485	-.757	-.568	**			
9		20.0	-1.187	1.474	-.609	.099	**			
10		25.0	-1.175	1.465	0.000	0.000	**			
11		30.0	-1.174	1.464	.100	.510	**			
12		35.0	-1.130	1.432	0.000	0.000	**			
13		40.0	-.954	1.315	-.036	.944	**			
14		45.0	-.661	1.146			**			
15		50.0	-.479	1.051	-.011	.170	**			
16		55.0	-.367	.995	.250	.724	**			
17		60.0	-.292	.959	.189	-.090	**			
18		65.0	-.242	.935	-.149	.092	**			
19		70.0	-.188	.909	-.091	-.157	**			
20		75.0	-.134	.883	-.075	-.061	**			
21		80.0	-.084	.860	-.064	.076	**			
22		85.0	-.023	.831			**			
23		90.0	.041	.802	-.053	-.042	**			
24		95.0	.111	.769			**			
	25	.5	.790	.428			**			
	26	1.5	.507	.580	.379	.038	**			
	27	3.0	.400	.633			**			
	28	5.0	.278	.691	0.000	0.000	**			
	29	7.5	.187	.734			**			
	30	10.0	.130	.760	.014	-.155	**			
	31	15.0	-.016	.828	0.000	0.000	**			
	32	20.0	-.149	.890	.133	-.099	**			
	33	25.0	-.243	.935			**			
	34	30.0	-.333	.979	-.149	.108	**			
	35	40.0	-.415	1.019	.396	-.068	**			
	36	50.0	-.378	1.000	-.117	.091	**			
	37	60.0	-.179	.905	-.166	-.176	**			
	38	70.0	.049	.798	.082	.082	**			
	39	80.0	.210	.723	-.065	-.062	**			
	40	90.0	.307	.677	-.040	.043	**			

OVERALL COEFFICIENTS		STEADY!	** SECTION 2 ** RE	IM
Cz	UPPER	.584	.022	-.043
Cz	LOWER	-.049	.005	-.004
Cz	TOTAL	.535	.027	-.047
Cm	UPPER	.017	.000	-.012
Cm	LOWER	.004	-.006	-.000
Cm	TOTAL	.021	-.005	-.012

*** LANN *** RUN 145 ***

TABLE 9.19c (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.720	.468			**			
2		.5	-.010	.826			**			
3		1.5	-.700	1.167	.414	-.853	**			
4		3.0	-.993	1.340	-.195	-.933	**			
5		5.0	-1.095	1.408	-.173	-1.060	**			
6		7.5	-1.200	1.483			**			
7		10.0	-1.190	1.476	-.105	-.818	**	.023	-.022	307
8		15.0	-1.206	1.488	-.108	-.790	**			
9		20.0	-1.181	1.469	-.119	-.735	**	.012	.055	309
10		25.0	-1.174	1.464	0.000	0.000	**			
		30.0					**			
12		35.0	-1.164	1.457	.583	-.115	**			
13		40.0	-1.154	1.450	-.521	.110	**	-.186	.342	313
14		45.0	-.658	1.144	.046	-.358	**			
15		50.0	-.588	1.107	.182	.019	**	-.039	.087	315
16		55.0	-.518	1.071	.157	.401	**			
17		60.0	-.421	1.022	.208	-.187	**	-.109	-.027	317
18		65.0	-.307	.966	0.000	0.000	**			
19		70.0	-.205	.917	-.366	-.121	**	-.103	.094	319
20		75.0	-.140	.886	-.018	-.136	**			
21		80.0	-.077	.856	.088	.075	**	.064	.042	321
22		85.0	-.020	.830			**			
23		90.0	.034	.805	.054	-.066	**	.041	-.008	323
24		95.0	.102	.773			**			
	25	.5	.793	.426			**			
	26	1.5	.519	.574	.043	-.441	**			
	27	3.0	.402	.632	.516	-.404	**			
		5.0					**			
	29	7.5	.178	.738			**			
	30	10.0	.094	.777	-.086	-.105	**			
		15.0					**			
	32	20.0	-.147	.890	.041	-.275	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.346	.985	-.144	.110	**			
	37	60.0	-.159	.895	-.087	-.326	**			
	38	70.0	.060	.793	0.000	0.000	**			
	39	80.0	.220	.718	-.001	-.177	**			
	40	90.0	.315	.674	-.063	.066	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.616	-.007	.068
Cz	LOWER	-.017	-.009	-.031
Cz	TOTAL	.599	-.016	.037
Cm	UPPER	.027	-.005	-.012
Cm	LOWER	.009	-.009	-.006
Cm	TOTAL	.037	-.015	-.018

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.774	.437			**			
2		.5	.032	.806			**			
3		1.5	-.670	1.150	-.504	.182	**			
4		3.0	-.890	1.276	-1.211	1.043	**			
5		5.0	-1.059	1.383	-.847	.149	**	-.009	.005	405
6		7.5	-1.123	1.428			**			
7		10.0					**	-.074	.001	407
8		15.0	-1.137	1.437	-.445	1.428	**			
9		20.0	-1.146	1.444	-.629	.104	**	-.003	-.003	409
10		25.0	-1.136	1.437	-.591	.105	**			
		30.0					**			
12		35.0	-1.120	1.425	-7.601	-3.638	**			
13		40.0	-.854	1.255	5.391	1.748	**	8.621	2.313	413
14		45.0	-.623	1.125	.502	.634	**			
15		50.0	-.561	1.093	.350	.627	**	.076	.145	415
16		55.0	-.508	1.065	.057	.264	**			
17		60.0	-.438	1.030	.236	.283	**	-.060	.045	417
		65.0					**			
19		70.0	-.270	.948	-.296	-.255	**			
20		75.0	-.201	.915	-.398	-.079	**			
21		80.0	-.137	.885	-.224	-.199	**	-.317	-.232	421
22		85.0	-.069	.853			**			
23		90.0	-.023	.831	-.339	.087	**			
24		95.0	.027	.808			**			
	25	.5	.751	.450			**			
	26	1.5	.444	.611	-.211	.168	**			
	27	3.0	.313	.674	-.055	.397	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.043	.841	-.161	.494	**			
	32	20.0	-.154	.893	0.000	0.000	**			
	33	25.0	-.237	.932			**			
		30.0					**			
	35	40.0	-.372	.997	-.040	.256	**			
	36	50.0	-.344	.984	-.247	.188	**			
	37	60.0	-.135	.884	-.288	.251	**			
	38	70.0	.066	.790	-.179	.169	**			
	39	80.0	.231	.713	-.079	.237	**			
	40	90.0	.304	.679	-.133	.271	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.600	.160	-.001
Cz	LOWER	-.035	-.038	.071
Cz	TOTAL	.565	.121	.069
Cm	UPPER	.038	.015	.007
Cm	LOWER	.010	-.022	.029
Cm	TOTAL	.047	-.007	.036

*** LANN *** RUN 145 ***

TABLE 9.19c (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	Cp M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.782	.432			**			
2		.5	.105	.772			**			
3		1.5	-.463	1.043	.615	.217	**			
4		3.0	-.801	1.223	-.708	.208	**			
5		5.0	-.917	1.292	0.000	0.000	**	-.011	-.003	505
6		7.5	-.969	1.325			**			
7		10.0	-1.017	1.356	1.238	-.208	**			
		15.0					**			
9		20.0	-1.051	1.378	.774	-.151	**			
10		25.0	-1.043	1.372	.711	-.151	**			
11		30.0	-1.061	1.385	.145	.666	**			
		35.0					**			
13		40.0	-.989	1.337	-.182	-10.31	**			
14		45.0	-.727	1.182	4.972	3.038	**			
15		50.0	-.524	1.074	1.018	.828	**			
16		55.0	-.434	1.028	.225	-.181	**			
17		60.0	-.352	.988	.638	.323	**			
18		65.0	-.283	.954	.001	-.174	**			
19		70.0	-.226	.927	-.019	-.324	**	-.067	-.170	519
20		75.0	-.185	.908	.243	-.092	**			
21		80.0	-.133	.883	.088	.254	**			
22		85.0	-.062	.850			**			
23		90.0	-.007	.824	-.246	.256	**			
24		95.0	.056	.795			**			
	25	.5	.704	.477			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	.004	.819	.091	.115	**			
		15.0					**			
	32	20.0	-.178	.904	.165	-.112	**			
		25.0					**			
	34	30.0	-.296	.960	.305	.059	**			
		40.0					**			
	36	50.0	-.367	.995	.156	-.115	**			
		60.0					**			
		70.0					**			
	39	80.0	.234	.712	0.000	0.000	**			
	40	90.0	.310	.676	-.084	.084	**			

OVERALL COEFFICIENTS		STEADY	SECTION 5 RE	SECTION 5 IM
Cz	UPPER	.554	-.166	.170
Cz	LOWER	-.039	.032	-.004
Cz	TOTAL	.516	-.133	.166
Cm	UPPER	.035	-.033	.026
Cm	LOWER	.007	.004	-.002
Cm	TOTAL	.042	-.029	.024

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	Cp M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.774	.437			**			
		.5					**			
3		1.5	-.287	.956			**			
		3.0					**			
5		5.0	-.756	1.198	.722	-.228	**			
		7.5					**			
7		10.0	-.870	1.264	0.000	0.000	**			
8		15.0	-.909	1.287	.324	-2.057	**			
9		20.0	-.964	1.321	0.000	0.000	**			
10		25.0	-.998	1.343	0.000	0.000	**			
11		30.0	-1.033	1.366			**			
12		35.0	-1.066	1.388	-.889	-.577	**			
13		40.0	-.551	1.088	.439	-.555	**			
14		45.0	-.382	1.002	.902	-.724	**			
15		50.0	-.289	.957	.439	.030	**			
16		55.0	-.258	.942	.231	-.205	**			
17		60.0	-.263	.945	-.206	-.234	**			
18		65.0	-.280	.953	.102	.118	**			
19		70.0	-.285	.955	-.117	.101	**			
20		75.0	-.266	.946	0.000	0.000	**			
21		80.0	-.211	.920	0.000	0.000	**			
22		85.0	-.097	.866			**			
23		90.0	.008	.817	-.098	-.295	**			
24		95.0	.093	.777			**			
	25	.5	.594	.536			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.181	.906	-.263	.448	**			
		20.0					**			
	33	25.0	-.314	.969			**			
	34	30.0	-.341	.982	0.000	0.000	**			
	35	40.0	-.382	1.002	0.000	0.000	**			
	36	50.0	-.315	.970	0.000	0.000	**			
		60.0					**			
		70.0					**			
	39	80.0	.233	.712	0.000	0.000	**			
	40	90.0	.302	.680	-.213	-.216	**			

OVERALL COEFFICIENTS		STEADY	SECTION 6 RE	SECTION 6 IM
Cz	UPPER	.465	-.024	.084
Cz	LOWER	-.049	-.012	.008
Cz	TOTAL	.415	-.035	.092
Cm	UPPER	.031	.004	.015
Cm	LOWER	.009	-.009	-.013
Cm	TOTAL	.041	-.005	.001

*** LANN *** RUN 92 ***

TABLE 9.20

TEST CONDITIONS		NORM. COEFF. Cz RE	NORM. COEFF. Czi IM	MOM. COEFF. Cm RE	MOM. COEFF. Cmi IM	DISPLACEMENTS REL.TO LVDT AMPL. (-)	DISPLACEMENTS REL.TO LVDT PHASE (DEG)	VIBRATION MODE **Y/(B/2)	VIBRATION MODE HEAVE AT X=.224 M (MM)	VIBRATION MODE PITCH (DEG)
RUNNR. = 92		SECT.1 .327	1.803	-.490	.031	.473	-.113	LVDT	1.00	0.00	** .000		
		SECT.2 .338	2.095	-.639	.023	.818	-.216	CALC. 1	1.06	3.86	** .100		
ALFA = .59	(DEG)	SECT.3 .373	2.406	-.349	.032	1.129	-.221	ACC. 2	.30	7.29	** .100	.03	.23
MACH = .871		SECT.4 .324	1.077	1.073	.043	.241	.688	ACC. 3	.62	-179.84	** .100		
RE*10**-6= 5.52		SECT.5 .209	-.266	.996	.018	-.586	.730	ACC. 4	.40	-193.01	** .420		
Q =48.38	(KPA)	SECT.6 .215	.406	.437	.036	-.416	.291	ACC. 5	1.19	-187.67	** .420	.19	.25
P-SETTL. =149.4	(KPA)							ACC. 6	1.84	-182.89	** .420		
T-SETTL. =29.00		WING .307	1.483	-.026	.025	-.042	.581	ACC. 7	2.26	-186.38	** .700		
					(WING : CM ABOUT			CALC. 8	2.78	-186.73	** .700	.58	.23
DALFA = .248	(DEG)				AERODYN. CENTER)			CALC. 9	3.27	-185.08	** .700		
FREQ. =24.00	(Hz)							CALC.10	3.78	-187.17	** .920		
REDFR. = .071								ACC.11	4.20	-186.77	** .920	.80	.26
HARM. = 1								ACC.12	4.63	-186.43	** .920		

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.787	.460					
2		.5	.224	.760					
3		1.5	-.364	1.060	-2.970	.570			
4		3.0	-.712	1.263	-4.940	.998			
5		5.0	-.747	1.286			-4.818	1.186	105
6		7.5	-.898	1.389					
7		10.0	-.925	1.409	-3.345	1.175			
8		15.0	-.882	1.378	-4.013	1.400			
9		20.0	-.709	1.261	-24.50	9.383			
10		25.0	-.574	1.179	-2.114	.936			
11		30.0	-.585	1.185	-1.522	1.031			
12		35.0	-.593	1.190					
13		40.0	-.604	1.196	-1.857	.949			
14		45.0	-.630	1.212	-1.639	.689			
15		50.0	-.659	1.230	-1.890	.595			
16		55.0	-.682	1.244	-1.813	.777			
17		60.0	-.704	1.258	-1.864	.924			
18		65.0	-.729	1.274	-2.340	.902			
19		70.0	-.334	1.043	-6.763	3.506	-8.239	3.038	119
20		75.0	-.170	.957	-2.904	1.094			
21		80.0	-.086	.914	-1.419	.094			
22		85.0	-.015	.879					
23		90.0	.044	.849	-.748	-.041			
24		95.0	.107	.818					
	25	.5	.709	.506					
	26	1.5	.375	.684	3.739	.165			
	27	3.0	.319	.712	4.028	.661			
	28	5.0	.233	.755	4.048	-.260			
	29	7.5	.093	.824					
		10.0							
	31	15.0	-.077	.910	3.080	-.307			
	32	20.0	-.218	.982	3.150	-.418			
	33	25.0	-.317	1.035					
	34	30.0	-.449	1.107	1.760	-.094			
	35	40.0	-.514	1.144	1.266	-.520			
	36	50.0	-.706	1.259	2.388	-1.066			
	37	60.0	-.277	1.013	2.261	.659			
	38	70.0	-.047	.894	4.175	-.307			
	39	80.0	.139	.802	2.254	-.395			
	40	90.0	.277	.733	.511	-.111			

OVERALL COEFFICIENTS		STEADY	SECTION 1 RE	SECTION 1 IM
Cz	UPPER	.478	1.086	-.410
Cz	LOWER	-.151	.717	-.079
Cz	TOTAL	.327	1.803	-.490
Cm	UPPER	.048	.212	-.082
Cm	LOWER	-.018	.260	-.032
Cm	TOTAL	.031	.473	-.113

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.815	.443					
2		.5	.267	.738					
3		1.5	-.342	1.048	-4.612	.767			
4		3.0	-.634	1.214	-4.777	1.292			
5		5.0	-.752	1.289	-5.845	1.303			
6		7.5	-.901	1.391					
7		10.0	-.935	1.416	-1.254	.850			
8		15.0	-.916	1.402	-2.918	.877			
9		20.0	-.908	1.397	-3.745	1.805			
10		25.0	-.889	1.383	-3.308	1.385			
11		30.0	-.892	1.385	-2.850	1.469			
12		35.0	-.715	1.265	-18.12	10.705			
13		40.0	-.649	1.224	-2.157	1.035			
14		45.0	-.665	1.234					
15		50.0	-.704	1.258	-1.580	.848			
16		55.0	-.726	1.272	-1.730	.926			
17		60.0	-.756	1.292	-1.752	1.042			
18		65.0	-.418	1.090	-5.299	-.174			
19		70.0	-.223	.985	-4.403	.559			
20		75.0	-.134	.939	-2.333	.495			
21		80.0	-.066	.904	-1.492	.031			
22		85.0	-.004	.873					
23		90.0	.054	.844	-1.007	.170			
24		95.0	.115	.814					
	25	.5	.699	.512					
	26	1.5	.367	.688	4.671	.399			
	27	3.0	.279	.732					
	28	5.0	.170	.786	2.381	-.644			
	29	7.5	.079	.832					
	30	10.0	.032	.855	2.722	-.694			
	31	15.0	-.112	.928	3.718	-.305			
	32	20.0	-.255	1.002	3.102	-.526			
	33	25.0	-.354	1.054					
	34	30.0	-.479	1.124	2.160	-.349			
	35	40.0	-.620	1.206	2.432	-.751			
	36	50.0	-.772	1.302	2.003	-.764			
	37	60.0	-.213	.979	2.386	.897			
	38	70.0	-.029	.886	5.105	-.370			
	39	80.0	.131	.806	4.854	-1.650			
	40	90.0	.261	.741	2.122	-1.136			

OVERALL COEFFICIENTS		STEADY	SECTION 2 RE	SECTION 2 IM
Cz	UPPER	.511	1.173	-.474
Cz	LOWER	-.172	.923	-.165
Cz	TOTAL	.338	2.095	-.639
Cm	UPPER	.041	.362	-.106
Cm	LOWER	-.019	.456	-.110
Cm	TOTAL	.023	.818	-.216

*** L.ANN *** RUN 92 ***

TABLE 9.20 (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.834	.431			**			
2		.5	.259	.742			**			
3		1.5	-.341	1.047	-4.211	1.023	**			
4		3.0	-.593	1.190	-5.512	.852	**			
5		5.0	-.723	1.270	-5.243	.846	**			
6		7.5	-.869	1.369			**			
7		10.0	-.886	1.380	-3.101	.735	**	-3.273	.645	307
8		15.0	-.910	1.398	-4.031	.952	**			
9		20.0	-.907	1.396	-3.856	1.174	**	-3.452	.676	309
10		25.0	-.906	1.395	-3.764	1.014	**			
		30.0					**			
12		35.0	-.898	1.389	-5.283	1.842	**			
13		40.0	-.901	1.392	-4.150	1.629	**	-4.332	1.085	313
14		45.0	-.911	1.399	-4.345	1.954	**			
15		50.0	-.927	1.410	-4.266	2.731	**	-4.549	1.374	315
16		55.0	-.866	1.366	-5.860	-5.756	**			
17		60.0	-.441	1.102	-4.571	-1.614	**	-4.189	-1.754	317
18		65.0	-.341	1.047	-10.68	3.537	**			
19		70.0	-.252	1.000	-10.79	5.333	**	-9.745	2.946	319
20		75.0	-.159	.952	-7.800	4.726	**			
21		80.0	-.070	.906	-3.522	1.849	**	-2.538	.590	321
22		85.0	.001	.870			**			
23		90.0	.057	.842	-1.152	.790	**	-.304	-.241	323
24		95.0	.127	.808			**			
	25	.5	.683	.521			**			
	26	1.5	.355	.694	4.898	.761	**			
	27	3.0	.247	.748	5.918	1.562	**			
		5.0					**			
	29	7.5	.046	.848			**			
	30	10.0	-.029	.885	2.854	-.231	**			
		15.0					**			
	32	20.0	-.280	1.015	2.832	-.078	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.779	1.307	3.255	-.080	**			
	37	60.0	-.174	.959	.955	1.571	**			
	38	70.0	.005	.869	3.205	.695	**			
	39	80.0	.146	.798	4.958	-.190	**			
	40	90.0	.266	.739	3.213	-.500	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.542	1.466	-.404
Cz	LOWER	-.169	.941	.055
Cz	TOTAL	.373	2.406	-.349
Cm	UPPER	.046	.686	-.239
Cm	LOWER	-.014	.443	.018
Cm	TOTAL	.032	1.129	-.221

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.867	.410			**			
2		.5	.322	.710			**			
3		1.5	-.234	.991	-5.733	-.084	**			
4		3.0	-.526	1.151	-4.772	.575	**			
5		5.0	-.700	1.255	-3.610	.637	**	-4.330	.672	405
6		7.5	-.791	1.315			**			
7		10.0					**	-4.552	.889	407
8		15.0	-.830	1.341	-5.985	.182	**			
9		20.0	-.858	1.361	-3.817	.575	**	-3.607	.545	409
10		25.0	-.866	1.367	-4.893	.811	**			
		30.0					**			
12		35.0	-.876	1.374	-4.736	.953	**			
13		40.0	-.886	1.381	-4.911	1.332	**	-4.549	1.085	413
14		45.0	-.899	1.390	-4.236	1.160	**			
15		50.0	-.656	1.228	37.126	-33.40	**	40.569	-29.59	415
16		55.0	-.421	1.091	9.974	-9.152	**			
17		60.0	-.362	1.059	3.388	-3.345	**	2.137	-3.043	417
		65.0					**			
19		70.0	-.277	1.013	-2.024	-2.811	**			
20		75.0	-.221	.984	-4.139	-2.091	**			
21		80.0	-.173	.959	-6.869	-.882	**	-6.425	-.411	421
22		85.0	-.129	.936			**			
23		90.0	-.089	.916	-10.31	2.247	**			
24		95.0	-.048	.895			**			
	25	.5	.611	.561			**			
	26	1.5	.241	.751	5.334	1.072	**			
	27	3.0	.133	.805	4.838	1.052	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.189	.967	4.471	.719	**			
	32	20.0	-.312	1.032	2.761	.119	**			
	33	25.0	-.405	1.082			**			
		30.0					**			
	35	40.0	-.644	1.221	3.088	.250	**			
	36	50.0	-.794	1.317	2.284	1.335	**			
	37	60.0	-.167	.956	-1.277	2.832	**			
	38	70.0	.006	.868	.680	2.867	**			
	39	80.0	.154	.794	1.127	1.618	**			
	40	90.0	.254	.744	-.523	1.284	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.512	.488	.691
Cz	LOWER	-.188	.589	.382
Cz	TOTAL	.324	1.077	1.073
Cm	UPPER	.055	.250	.425
Cm	LOWER	-.013	-.009	.264
Cm	TOTAL	.043	.241	.688

*** LANN *** RUN 92 ***

TABLE 9.20 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.862	.414			**			
2		.5	.403	.670			**			
3		1.5	-.115	.929	-5.472	-.608	**			
4		3.0	-.386	1.072	-3.975	.432	**			
5		5.0	-.529	1.152	-6.896	.221	**	-6.422	.715	505
6		7.5	-.614	1.203			**			
7		10.0	-.684	1.246	-2.620	.257	**			
		15.0					**			
9		20.0	-.735	1.278	-6.801	-.017	**			
10		25.0	-.763	1.296	-4.547	.519	**			
11		30.0	-.792	1.316	-4.577	.378	**			
		35.0					**			
13		40.0	-.826	1.338	-4.714	.498	**			
14		45.0	-.842	1.350	-3.846	.470	**			
15		50.0	-.739	1.281	26.962	-9.292	**			
16		55.0	-.455	1.110	25.126	-8.408	**			
17		60.0	-.338	1.046	7.444	-2.897	**			
18		65.0	-.278	1.014	3.621	-2.904	**			
19		70.0	-.224	.985	.067	-3.160	**	-1.879	-2.380	519
20		75.0	-.174	.959	-1.688	-.927	**			
21		80.0	-.126	.935	-4.870	-2.328	**			
22		85.0	-.081	.912			**			
23		90.0	-.041	.892	-7.793	-1.834	**			
24		95.0	-.002	.872			**			
	25	.5	.533	.602			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	-.177	.961	6.361	.718	**			
		15.0					**			
	32	20.0	-.359	1.057	3.172	.248	**			
		25.0					**			
	34	30.0	-.514	1.143	2.773	.539	**			
		40.0					**			
	36	50.0	-.783	1.310	-11.59	3.372	**			
		60.0					**			
		70.0					**			
	39	80.0	.142	.800	1.619	2.086	**			
	40	90.0	.256	.743	.448	.836	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.453	.103	.510
Cz	LOWER	-.243	-.369	.486
Cz	TOTAL	.209	-.266	.996
Cm	UPPER	.050	-.130	.417
Cm	LOWER	-.032	-.456	.313
Cm	TOTAL	.018	-.586	.730

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.847	.423			**			
		.5					**			
3		1.5	.065	.838			**			
		3.0					**			
5		5.0	-.399	1.079	-6.278	-.609	**			
		7.5					**			
7		10.0	-.593	1.190	-3.016	-.757	**			
8		15.0	-.615	1.203	-11.10	-1.547	**			
9		20.0	-.673	1.239	-4.737	-.599	**			
10		25.0	-.732	1.276	-3.691	-.522	**			
11		30.0	-.770	1.301			**			
12		35.0	-.831	1.342	-4.295	-.115	**			
13		40.0	-.861	1.363	-4.214	-.048	**			
14		45.0	-.888	1.382	-4.607	.180	**			
15		50.0	-.547	1.162	17.319	-6.534	**			
16		55.0	-.329	1.041	3.065	-2.921	**			
17		60.0	-.230	.988	-.852	-2.466	**			
18		65.0	-.174	.960	-.479	-.774	**			
19		70.0	-.160	.952	1.098	.699	**			
20		75.0	-.147	.945	1.341	.684	**			
21		80.0	-.108	.926	1.241	.833	**			
22		85.0	-.017	.879			**			
23		90.0	.065	.838	-.607	-.377	**			
24		95.0	.128	.807			**			
	25	.5	.353	.695			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.373	1.065	2.867	.335	**			
		20.0					**			
	33	25.0	-.523	1.149			**			
	34	30.0	-.599	1.193	2.391	.707	**			
	35	40.0	-.756	1.292	2.241	.248	**			
	36	50.0	-.210	.978	-3.613	-1.921	**			
		60.0					**			
		70.0					**			
	39	80.0	.139	.802	-.617	2.925	**			
	40	90.0	.225	.759	.114	2.662	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.383	.403	.244
Cz	LOWER	-.169	.002	.193
Cz	TOTAL	.215	.406	.437
Cm	UPPER	.034	-.237	.075
Cm	LOWER	.002	-.179	.216
Cm	TOTAL	.036	-.416	.291

*** LANN *** RUN 260 ***

TABLE 9.21

TEST CONDITIONS		NORM. COEFF. Cz RE	NORM. COEFF. Cz IM	MOM. COEFF. Cm RE	MOM. COEFF. Cm IM
RUNNR. = 260	SECT.1	.263	1.355	.015	.023
	SECT.2	.295	1.447	.021	.002
ALFA = .61 (DEG)	SECT.3	.332	1.531	.030	-.004
MACH = .620	SECT.4	.334	1.642	.043	-.019
RE*10**-6= 4.85	SECT.5	.307	1.571	.055	-.014
Q =31.10 (KPA)	SECT.6	.264	1.153	.057	-.120
P-SETTL. =149.6 (KPA)					
T-SETTL. =15.00	WING	.287	1.413	.042	.134
				(WING ; CM ABOUT	
				AERODYN. CENTER)	
DALFA = .248 (DEG)			QUASI STEADY		
FREQ. = 0.00 (Hz)					
HARM. = 1					

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.592	.403	-5.082	0.000	**			
2		.5	-.233	.697	-11.12	0.000	**			
3		1.5	-.931	.921	-13.78	0.000	**			
4		3.0	-1.036	.955	-12.86	0.000	**			
5		5.0	-1.020	.950	-9.865	0.000	**	0.000	0.000	105
6		7.5	-.841	.892	-7.336	0.000	**			
7		10.0	-.686	.842	-5.548	0.000	**			
8		15.0	-.567	.804	-3.970	0.000	**			
9		20.0	-.495	.781	-3.377	0.000	**			
10		25.0	-.456	.768	-2.696	0.000	**			
11		30.0	-.420	.757	-2.496	0.000	**			
12		35.0	-.395	.749	-2.030	0.000	**			
13		40.0	-.376	.743	-1.826	0.000	**			
14		45.0	-.361	.738	-1.741	0.000	**			
15		50.0	-.340	.731	-1.237	0.000	**			
16		55.0	-.311	.722	-1.119	0.000	**			
17		60.0	-.284	.713	-1.054	0.000	**			
18		65.0	-.246	.701	-.762	0.000	**			
19		70.0	-.200	.686	-.829	0.000	**	0.000	0.000	119
20		75.0	-.162	.674	-.601	0.000	**			
21		80.0	-.117	.659	-.255	0.000	**			
22		85.0	-.051	.637	-.259	0.000	**			
23		90.0	-.001	.621	-.221	0.000	**			
24		95.0	.067	.598	-.069	0.000	**			
	25	.5	.707	.351	3.706	0.000	**			
	26	1.5	.386	.484	5.522	0.000	**			
	27	3.0	.305	.515	4.573	0.000	**			
	28	5.0	.213	.547	4.331	0.000	**			
	29	7.5	.076	.595	4.001	0.000	**			
		10.0					**			
	31	15.0	-.084	.648	3.556	0.000	**			
	32	20.0	-.193	.684	3.203	0.000	**			
	33	25.0	-.256	.704	3.013	0.000	**			
	34	30.0	-.325	.727	2.797	0.000	**			
	35	40.0	-.345	.733	2.270	0.000	**			
	36	50.0	-.321	.725	1.724	0.000	**			
	37	60.0	-.197	.685	1.245	0.000	**			
	38	70.0	-.003	.621	.879	0.000	**			
	39	80.0	.152	.569	.609	0.000	**			
	40	90.0	.252	.534	.480	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 1 ** RE	IM
Cz	UPPER	.336	.743	0.000
Cz	LOWER	-.073	.613	0.000
Cz	TOTAL	.263	1.355	0.000
Cm	UPPER	.016	.050	0.000
Cm	LOWER	-.001	.073	0.000
Cm	TOTAL	.015	.023	0.000

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.626	.388	-5.545	0.000	**			
2		.5	-.211	.690	-12.08	0.000	**			
3		1.5	-.937	.923	-15.74	0.000	**			
4		3.0	-1.073	.968	-14.17	0.000	**			
5		5.0	-1.105	.978	-11.84	0.000	**			
6		7.5	-.876	.903	-8.374	0.000	**			
7		10.0	-.732	.857	-6.189	0.000	**			
8		15.0	-.601	.815	-4.418	0.000	**			
		20.0					**			
10		25.0	-.489	.779	-2.952	0.000	**			
11		30.0	-.461	.770	-2.703	0.000	**			
12		35.0	-.417	.756	-2.211	0.000	**			
13		40.0	-.393	.748	-2.081	0.000	**			
		45.0					**			
15		50.0	-.361	.738	-1.360	0.000	**			
16		55.0	-.325	.726	-1.224	0.000	**			
17		60.0	-.296	.717	-1.151	0.000	**			
18		65.0	-.269	.708	-.843	0.000	**			
19		70.0	-.217	.692	-.876	0.000	**			
20		75.0	-.169	.676	-.615	0.000	**			
21		80.0	-.127	.663	-.300	0.000	**			
22		85.0	-.069	.643	-.329	0.000	**			
23		90.0	-.007	.623	-.297	0.000	**			
24		95.0	.066	.598	-.200	0.000	**			
	25	.5	.721	.344	3.776	0.000	**			
	26	1.5	.404	.478	5.725	0.000	**			
		3.0					**			
	28	5.0	.181	.559	4.553	0.000	**			
	29	7.5	.089	.591	4.213	0.000	**			
	30	10.0	.041	.607	3.894	0.000	**			
	31	15.0	-.086	.649	3.652	0.000	**			
	32	20.0	-.191	.683	3.305	0.000	**			
	33	25.0	-.251	.703	3.097	0.000	**			
	34	30.0	-.308	.721	2.834	0.000	**			
	35	40.0	-.342	.732	2.348	0.000	**			
	36	50.0	-.313	.723	1.715	0.000	**			
	37	60.0	-.177	.679	1.200	0.000	**			
	38	70.0	.015	.615	.770	0.000	**			
	39	80.0	.168	.563	.556	0.000	**			
	40	90.0	.262	.530	.371	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 2 ** RE	IM
Cz	UPPER	.358	.829	0.000
Cz	LOWER	-.063	.618	0.000
Cz	TOTAL	.295	1.447	0.000
Cm	UPPER	.018	-.057	0.000
Cm	LOWER	.002	.059	0.000
Cm	TOTAL	.021	.002	0.000

*** L...ANN *** RUN 260 ***

TABLE 9.21 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.661	.372	-5.492	0.000	**			
2		.5	-.213	.690	-12.48	0.000	**			
3		1.5	-.951	.927	-16.54	0.000	**			
4		3.0	-1.029	.953	-14.63	0.000	**			
5		5.0	-1.025	.952	-11.67	0.000	**			
6		7.5	-.878	.904	-8.584	0.000	**			
7		10.0	-.741	.859	-6.609	0.000	**	0.000	0.000	307
8		15.0	-.626	.823	-4.818	0.000	**			
9		20.0	-.550	.798	-4.066	0.000	**	0.000	0.000	309
10		25.0	-.498	.782	-3.166	0.000	**			
		30.0					**			
12		35.0	-.434	.761	-2.363	0.000	**			
13		40.0	-.414	.755	-2.047	0.000	**	0.000	0.000	313
14		45.0	-.396	.749	-2.009	0.000	**			
15		50.0	-.373	.742	-1.414	0.000	**	0.000	0.000	315
16		55.0	-.340	.731	-1.238	0.000	**			
17		60.0	-.314	.723	-1.181	0.000	**	0.000	0.000	317
18		65.0	-.281	.712	-.843	0.000	**			
19		70.0	-.239	.699	-.852	0.000	**	0.000	0.000	319
20		75.0	-.194	.684	-.638	0.000	**			
21		80.0	-.144	.668	-.292	0.000	**	0.000	0.000	321
22		85.0	-.089	.650	-.249	0.000	**			
23		90.0	-.020	.627	-.214	0.000	**	0.000	0.000	323
24		95.0	.058	.601	-.086	0.000	**			
	25	.5	.733	.339	4.146	0.000	**			
	26	1.5	.435	.466	6.935	0.000	**			
	27	3.0	.307	.514	5.439	0.000	**			
		5.0					**			
	29	7.5	.090	.590	4.687	0.000	**			
	30	10.0	.015	.615	4.314	0.000	**			
		15.0					**			
	32	20.0	-.180	.680	3.573	0.000	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.291	.716	1.856	0.000	**			
	37	60.0	-.161	.674	1.299	0.000	**			
	38	70.0	.025	.612	.828	0.000	**			
	39	80.0	.182	.558	.589	0.000	**			
	40	90.0	.276	.525	.448	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.369	.861	0.000
Cz	LOWER	-.036	.669	0.000
Cz	TOTAL	.332	1.531	0.000
Cm	UPPER	.023	-.066	0.000
Cm	LOWER	.007	.062	0.000
Cm	TOTAL	.030	-.004	0.000

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.736	.337	-4.472	0.000	**			
2		.5	-.107	.656	-13.07	0.000	**			
3		1.5	-.736	.858	-16.20	0.000	**			
4		3.0	-.903	.912	-14.95	0.000	**			
5		5.0	-.944	.925	-12.02	0.000	**	0.000	0.000	405
6		7.5	-.792	.876	-9.198	0.000	**			
7		10.0					**	0.000	0.000	407
8		15.0	-.620	.821	-5.266	0.000	**			
9		20.0	-.554	.800	-4.365	0.000	**	0.000	0.000	409
10		25.0	-.507	.785	-3.426	0.000	**			
		30.0					**			
12		35.0	-.445	.765	-2.551	0.000	**			
13		40.0	-.429	.760	-2.238	0.000	**	0.000	0.000	413
14		45.0	-.412	.754	-2.088	0.000	**			
15		50.0	-.389	.747	-1.513	0.000	**	0.000	0.000	415
16		55.0	-.368	.740	-1.362	0.000	**			
17		60.0	-.340	.731	-1.278	0.000	**	0.000	0.000	417
18		65.0	-.315	.723	-.936	0.000	**			
19		70.0	-.278	.711	-.918	0.000	**			
20		75.0	-.262	.706	-.581	0.000	**			
21		80.0	-.176	.678	-.278	0.000	**	0.000	0.000	421
22		85.0	-.099	.653	-.262	0.000	**			
23		90.0	-.027	.629	-.248	0.000	**			
24		95.0	.046	.605	-.070	0.000	**			
	25	.5	.676	.366	5.225	0.000	**			
	26	1.5	.338	.503	7.136	0.000	**			
	27	3.0	.209	.549	6.507	0.000	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.099	.653	4.238	0.000	**			
	32	20.0	-.183	.681	3.680	0.000	**			
	33	25.0	-.236	.698	3.488	0.000	**			
		30.0					**			
	35	40.0	-.306	.720	2.538	0.000	**			
	36	50.0	-.281	.712	1.870	0.000	**			
	37	60.0	-.129	.663	1.270	0.000	**			
	38	70.0	.047	.605	.821	0.000	**			
	39	80.0	.207	.550	.599	0.000	**			
	40	90.0	.285	.522	.476	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.375	.919	0.000
Cz	LOWER	-.041	.723	0.000
Cz	TOTAL	.334	1.642	0.000
Cm	UPPER	.032	-.069	0.000
Cm	LOWER	.012	.050	0.000
Cm	TOTAL	.043	-.019	0.000

*** L..ANN *** RUN 260 ***

TABLE 9.21 (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.779	.316	-3.163	0.000	**			
2		.5	.090	.590	-12.17	0.000	**			
3		1.5	-.489	.779	-14.16	0.000	**			
4		3.0	-.677	.839	-12.71	0.000	**			
5		5.0	-.694	.844	-10.69	0.000	**	0.000	0.000	505
6		7.5	-.710	.849	-9.083	0.000	**			
7		10.0	-.601	.815	-7.225	0.000	**			
		15.0					**			
9		20.0	-.522	.790	-4.548	0.000	**			
10		25.0	-.491	.780	-3.617	0.000	**			
11		30.0	-.462	.770	-3.252	0.000	**			
		35.0					**			
13		40.0	-.419	.756	-2.261	0.000	**			
14		45.0	-.407	.753	-2.188	0.000	**			
15		50.0	-.391	.748	-1.534	0.000	**			
16		55.0	-.372	.742	-1.403	0.000	**			
17		60.0	-.353	.736	-1.313	0.000	**			
18		65.0	-.339	.731	-.996	0.000	**			
19		70.0	-.313	.723	-1.010	0.000	**	0.000	0.000	519
20		75.0	-.293	.716	-.703	0.000	**			
21		80.0	-.237	.698	-.244	0.000	**			
22		85.0	-.134	.665	-.298	0.000	**			
23		90.0	-.052	.638	-.229	0.000	**			
24		95.0	.042	.606	-.113	0.000	**			
	25	.5	.604	.397	7.239	0.000	**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	-.208	.689	4.030	0.000	**			
		15.0					**			
	32	20.0	-.198	.686	3.731	0.000	**			
		25.0					**			
	34	30.0	-.271	.709	2.994	0.000	**			
		40.0					**			
	36	50.0	-.299	.718	1.621	0.000	**			
		60.0					**			
		70.0					**			
	39	80.0	.214	.547	.407	0.000	**			
	40	90.0	.290	.520	.271	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.359	.908	0.000
Cz	LOWER	-.052	.663	0.000
Cz	TOTAL	.307	1.571	0.000
Cm	UPPER	.042	-.046	0.000
Cm	LOWER	.013	.033	0.000
Cm	TOTAL	.055	-.014	0.000

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.787	.311	-2.067	0.000	**			
		.5					**			
3		1.5	-.182	.680	-11.00	0.000	**			
		3.0					**			
5		5.0	-.487	.778	-8.655	0.000	**			
		7.5					**			
7		10.0	-.499	.782	-6.129	0.000	**			
8		15.0	-.472	.773	-4.236	0.000	**			
9		20.0	-.536	.794	1.191	0.000	**			
10		25.0	-.435	.762	-2.698	0.000	**			
11		30.0	-.407	.753	-2.281	0.000	**			
12		35.0	-.388	.747	-1.795	0.000	**			
13		40.0	-.362	.738	-1.513	0.000	**			
14		45.0	-.351	.735	-1.493	0.000	**			
15		50.0	-.341	.732	-.980	0.000	**			
16		55.0	-.330	.728	-.886	0.000	**			
17		60.0	-.317	.724	-.865	0.000	**			
18		65.0	-.316	.724	-.640	0.000	**			
19		70.0	-.307	.721	-.726	0.000	**			
20		75.0	-.289	.715	-.551	0.000	**			
21		80.0	-.247	.701	-.172	0.000	**			
22		85.0	-.138	.666	-.220	0.000	**			
23		90.0	-.027	.630	-.312	0.000	**			
24		95.0	.060	.600	-.252	0.000	**			
	25	.5	.408	.476	9.522	0.000	**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.196	.685	3.593	0.000	**			
		20.0					**			
	33	25.0	-.253	.703	2.401	0.000	**			
	34	30.0	-.268	.708	2.007	0.000	**			
	35	40.0	-.292	.716	1.369	0.000	**			
	36	50.0	-.261	.706	.758	0.000	**			
		60.0					**			
		70.0					**			
	39	80.0	.218	.546	-.126	0.000	**			
	40	90.0	.282	.523	-.078	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.305	.600	0.000
Cz	LOWER	-.040	.552	0.000
Cz	TOTAL	.264	1.153	0.000
Cm	UPPER	.043	-.032	0.000
Cm	LOWER	.014	-.088	0.000
Cm	TOTAL	.057	-.120	0.000

*** L.ANN *** RUN 272 ***

TABLE 9.22

TEST CONDITIONS	NORM. COEFF. Cz	Czi RE	Czi IM	MOM. COEFF. Cm	Cmi RE	Cmi IM
RUNNR. = 272	!SECT.1 .448	1.586		.013	.226	
ALFA = 2.60 (DEG)	!SECT.2 .488	1.514		.013	-.041	
MACH = .771	!SECT.3 .558	1.950		.020	-.066	
RE*10**-6= 5.24	!SECT.4 .558	1.544		.033	-.137	
Q =41.88 (KPA)	!SECT.5 .530	2.042		.043	-.129	
P-SETTL. =149.1 (KPA)	!SECT.6 .414	1.312		.044	-.200	
T-SETTL. =27.00	WING .482	1.614		.045	.232	
				(WING : CM ABOUT AERODYN. CENTER)		
DALFA = .251 (DEG)						
FREQ. = 0.00 (Hz)		QUASI STEADY				
HARM. = 1						

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.599	.500	-3.396	0.000	**			
2		.5	-.178	.848	-5.844	0.000	**			
3		1.5	-.916	1.190	-8.896	0.000	**			
4		3.0	-1.266	1.388	14.862	0.000	**			
5		5.0	-1.311	1.417	-1.410	0.000	**	0.000	0.000	105
6		7.5	-1.367	1.454	-1.219	0.000	**			
7		10.0	-1.375	1.459	-6.452	0.000	**			
8		15.0	-1.306	1.414	-6.285	0.000	**			
9		20.0	-.750	1.107	-15.21	0.000	**			
10		25.0	-.621	1.045	-3.881	0.000	**			
11		30.0	-.569	1.021	-2.454	0.000	**			
12		35.0	-.530	1.003	-1.402	0.000	**			
13		40.0	-.500	.990	-.967	0.000	**			
14		45.0	-.471	.977	-.550	0.000	**			
15		50.0	-.437	.961	-.653	0.000	**			
16		55.0	-.394	.942	-.103	0.000	**			
17		60.0	-.351	.923	-.240	0.000	**			
18		65.0	-.297	.899	-.282	0.000	**			
19		70.0	-.237	.873	-.192	0.000	**	0.000	0.000	119
20		75.0	-.182	.849	-.122	0.000	**			
21		80.0	-.123	.824	-.032	0.000	**			
22		85.0	-.047	.791	.062	0.000	**			
23		90.0	.012	.766	-.053	0.000	**			
24		95.0	.086	.734	.032	0.000	**			
	25	.5	.791	.397	2.101	0.000	**			
	26	1.5	.518	.540	3.907	0.000	**			
	27	3.0	.430	.581	3.457	0.000	**			
	28	5.0	.338	.623	3.005	0.000	**			
	29	7.5	.191	.688	3.469	0.000	**			
		10.0					**			
	31	15.0	.006	.768	3.105	0.000	**			
	32	20.0	-.122	.824	3.184	0.000	**			
	33	25.0	-.209	.861	.296	0.000	**			
	34	30.0	-.302	.902	8.143	0.000	**			
	35	40.0	-.318	.909	2.630	0.000	**			
	36	50.0	-.345	.921	6.886	0.000	**			
	37	60.0	-.195	.855	7.894	0.000	**			
	38	70.0	.022	.761	4.396	0.000	**			
	39	80.0	.184	.691	-1.802	0.000	**			
	40	90.0	.286	.646	-1.781	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 1 ** RE	IM
Cz	UPPER	.485	.581	0.000
Cz	LOWER	-.037	1.005	0.000
Cz	TOTAL	.448	1.586	0.000
Cm	UPPER	.012	-.029	0.000
Cm	LOWER	.001	.255	0.000
Cm	TOTAL	.013	.226	0.000

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.628	.485	-3.480	0.000	**			
2		.5	-.139	.831	-5.956	0.000	**			
3		1.5	-.962	1.214	-7.286	0.000	**			
4		3.0	-1.208	1.352	-5.971	0.000	**			
5		5.0	-1.314	1.419	-6.297	0.000	**			
6		7.5	-1.425	1.494	-6.027	0.000	**			
7		10.0	-1.428	1.496	-6.412	0.000	**			
8		15.0	-1.371	1.457	-7.374	0.000	**			
9		20.0	-1.336	1.433	-5.165	0.000	**			
10		25.0	-.774	1.118	-17.93	0.000	**			
11		30.0	-.590	1.031	-11.89	0.000	**			
12		35.0	-.481	.981	-2.047	0.000	**			
13		40.0	-.451	.968	1.298	0.000	**			
14		45.0	-.431	.959	1.303	0.000	**			
15		50.0	-.419	.953	1.045	0.000	**			
16		55.0	-.376	.934	.916	0.000	**			
17		60.0	-.336	.917	.402	0.000	**			
18		65.0	-.298	.900	.307	0.000	**			
19		70.0	-.236	.873	.253	0.000	**			
20		75.0	-.174	.846	.252	0.000	**			
21		80.0	-.123	.824	.178	0.000	**			
22		85.0	-.057	.795	.003	0.000	**			
23		90.0	.011	.766	-.032	0.000	**			
24		95.0	.087	.733	.040	0.000	**			
	25	.5	.798	.393	2.093	0.000	**			
	26	1.5	.528	.535	3.804	0.000	**			
	27	3.0	.417	.587	3.706	0.000	**			
	28	5.0	.291	.644	3.395	0.000	**			
	29	7.5	.199	.685	3.527	0.000	**			
	30	10.0	.142	.710	3.442	0.000	**			
	31	15.0	-.002	.772	3.335	0.000	**			
	32	20.0	-.126	.825	3.513	0.000	**			
	33	25.0	-.211	.862	3.369	0.000	**			
	34	30.0	-.290	.896	3.436	0.000	**			
	35	40.0	-.351	.923	2.878	0.000	**			
	36	50.0	-.330	.914	2.577	0.000	**			
	37	60.0	-.167	.843	1.354	0.000	**			
	38	70.0	.044	.752	.920	0.000	**			
	39	80.0	.202	.683	.629	0.000	**			
	40	90.0	.298	.641	.566	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 2 ** RE	IM
Cz	UPPER	.519	.861	0.000
Cz	LOWER	-.031	.654	0.000
Cz	TOTAL	.488	1.514	0.000
Cm	UPPER	.008	-.152	0.000
Cm	LOWER	.005	.111	0.000
Cm	TOTAL	.013	-.041	0.000

*** LANN *** RUN 272 ***

TABLE 9.22 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.651	.474	-3.502	0.000	**			
2		.5	-.166	.843	-6.235	0.000	**			
3		1.5	-.917	1.191	-7.599	0.000	**			
4		3.0	-1.215	1.357	-6.631	0.000	**			
5		5.0	-1.313	1.418	-6.903	0.000	**			
6		7.5	-1.404	1.479	-6.186	0.000	**			
7		10.0	-1.389	1.469	-6.244	0.000	**	0.000	0.000	307
8		15.0	-1.383	1.465	-6.510	0.000	**			
9		20.0	-1.340	1.436	-7.339	0.000	**	0.000	0.000	309
10		25.0	-1.242	1.373	-26.06	0.000	**			
		30.0					**			
12		35.0	-.536	1.006	-13.04	0.000	**			
13		40.0	-.438	.962	-3.992	0.000	**	0.000	0.000	313
14		45.0	-.408	.949	1.719	0.000	**			
15		50.0	-.394	.942	2.626	0.000	**	0.000	0.000	315
16		55.0	-.363	.928	2.040	0.000	**			
17		60.0	-.333	.915	1.391	0.000	**	0.000	0.000	317
18		65.0	-.293	.898	1.176	0.000	**			
19		70.0	-.245	.877	.860	0.000	**	0.000	0.000	319
20		75.0	-.188	.852	.690	0.000	**			
21		80.0	-.128	.826	.500	0.000	**	0.000	0.000	321
22		85.0	-.069	.801	.228	0.000	**			
23		90.0	.001	.778	.124	0.000	**	0.000	0.000	323
24		95.0	.081	.736	.021	0.000	**			
	25	.5	.806	.388	2.054	0.000	**			
	26	1.5	.548	.525	3.957	0.000	**			
	27	3.0	.422	.584	4.335	0.000	**			
		5.0					**			
	29	7.5	.199	.685	3.743	0.000	**			
	30	10.0	.115	.721	3.701	0.000	**			
		15.0					**			
	32	20.0	-.117	.821	3.620	0.000	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.301	.901	2.301	0.000	**			
	37	60.0	-.146	.834	1.316	0.000	**			
	38	70.0	.056	.747	.855	0.000	**			
	39	80.0	.215	.678	.610	0.000	**			
	40	90.0	.310	.636	.490	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.557	1.294	0.000
Cz	LOWER	.001	.656	0.000
Cz	TOTAL	.558	1.950	0.000
Cm	UPPER	.010	-.160	0.000
Cm	LOWER	.010	.095	0.000
Cm	TOTAL	.020	-.066	0.000

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.713	.440	-3.206	0.000	**			
2		.5	-.126	.825	-6.865	0.000	**			
3		1.5	-.900	1.182	-9.788	0.000	**			
4		3.0	-1.110	1.295	-6.982	0.000	**			
5		5.0	-1.277	1.395	-7.352	0.000	**	0.000	0.000	405
6		7.5	-1.328	1.428	-6.645	0.000	**			
7		10.0					**	0.000	0.000	407
8		15.0	-1.312	1.417	-7.052	0.000	**			
9		20.0	-1.302	1.411	-7.135	0.000	**	0.000	0.000	409
10		25.0	-1.269	1.390	-8.001	0.000	**			
		30.0					**			
12		35.0	-.541	1.009	-14.07	0.000	**			
13		40.0	-.445	.965	-4.691	0.000	**	0.000	0.000	413
14		45.0	-.420	.954	1.929	0.000	**			
15		50.0	-.407	.948	3.389	0.000	**	0.000	0.000	415
16		55.0	-.392	.941	2.914	0.000	**			
17		60.0	-.363	.928	2.082	0.000	**	0.000	0.000	417
		65.0					**			
19		70.0	-.286	.895	1.314	0.000	**			
20		75.0	-.255	.881	1.016	0.000	**			
21		80.0	-.163	.841	.745	0.000	**	0.000	0.000	421
22		85.0	-.078	.805	.322	0.000	**			
23		90.0	-.004	.773	.102	0.000	**			
24		95.0	.071	.740	-.051	0.000	**			
	25	.5	.772	.408	2.580	0.000	**			
	26	1.5	.483	.556	4.509	0.000	**			
	27	3.0	.350	.617	4.646	0.000	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.014	.777	3.696	0.000	**			
	32	20.0	-.117	.821	3.754	0.000	**			
	33	25.0	-.192	.854	3.462	0.000	**			
		30.0					**			
	35	40.0	-.306	.903	2.867	0.000	**			
	36	50.0	-.288	.896	2.289	0.000	**			
	37	60.0	-.111	.819	1.256	0.000	**			
	38	70.0	.077	.738	.808	0.000	**			
	39	80.0	.243	.665	.594	0.000	**			
	40	90.0	.322	.630	.546	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.561	.864	0.000
Cz	LOWER	-.003	.680	0.000
Cz	TOTAL	.558	1.544	0.000
Cm	UPPER	.018	-.225	0.000
Cm	LOWER	.014	.088	0.000
Cm	TOTAL	.033	-.137	0.000

*** LANN *** RUN 272 ***

TABLE 9.22 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.732	.430	-3.389	0.000	**			
2		.5	-.046	.791	-7.726	0.000	**			
3		1.5	-.655	1.061	-8.672	0.000	**			
4		3.0	-1.009	1.239	-8.803	0.000	**			
5		5.0	-1.116	1.299	-9.427	0.000	**	0.000	0.000	505
6		7.5	-1.154	1.321	-8.244	0.000	**			
7		10.0	-1.192	1.343	-8.119	0.000	**			
		15.0					**			
9		20.0	-1.176	1.334	-10.23	0.000	**			
10		25.0	-1.142	1.313	-11.60	0.000	**			
11		30.0	-.618	1.044	-36.37	0.000	**			
		35.0					**			
13		40.0	-.457	.971	4.172	0.000	**			
14		45.0	-.460	.972	4.807	0.000	**			
15		50.0	-.450	.967	3.482	0.000	**			
16		55.0	-.428	.957	2.353	0.000	**			
17		60.0	-.400	.945	1.417	0.000	**			
18		65.0	-.375	.934	1.115	0.000	**			
19		70.0	-.339	.918	.875	0.000	**	0.000	0.000	519
20		75.0	-.301	.901	.596	0.000	**			
21		80.0	-.225	.868	.230	0.000	**			
22		85.0	-.114	.820	.047	0.000	**			
23		90.0	-.026	.782	-.161	0.000	**			
24		95.0	.067	.742	.017	0.000	**			
	25	.5	.737	.428	3.423	0.000	**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	.045	.752	4.398	0.000	**			
		15.0					**			
	32	20.0	-.129	.826	3.795	0.000	**			
		25.0					**			
	34	30.0	-.239	.874	3.401	0.000	**			
		40.0					**			
	36	50.0	-.305	.903	2.076	0.000	**			
		60.0					**			
		70.0					**			
	39	80.0	.244	.665	.467	0.000	**			
	40	90.0	.321	.631	.430	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.531	1.361	0.000
Cz	LOWER	-.001	.680	0.000
Cz	TOTAL	.530	2.042	0.000
Cm	UPPER	.031	-.218	0.000
Cm	LOWER	.012	.089	0.000
Cm	TOTAL	.043	-.129	0.000

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.735	.429	-3.674	0.000	**			
		.5					**			
3		1.5	-.438	.962	-9.291	0.000	**			
		3.0					**			
5		5.0	-.919	1.191	-8.994	0.000	**			
		7.5					**			
7		10.0	-.994	1.231	-10.22	0.000	**			
8		15.0	-1.018	1.244	-5.241	0.000	**			
9		20.0	-1.024	1.247	-25.34	0.000	**			
10		25.0	-.492	.986	-7.838	0.000	**			
11		30.0	-.479	.980	6.633	0.000	**			
12		35.0	-.464	.974	3.468	0.000	**			
13		40.0	-.436	.961	1.491	0.000	**			
14		45.0	-.417	.952	.546	0.000	**			
15		50.0	-.399	.945	.213	0.000	**			
16		55.0	-.381	.937	.218	0.000	**			
17		60.0	-.361	.928	-.178	0.000	**			
18		65.0	-.355	.925	-.197	0.000	**			
19		70.0	-.340	.918	-.278	0.000	**			
20		75.0	-.305	.903	-.353	0.000	**			
21		80.0	-.237	.873	-.462	0.000	**			
22		85.0	-.116	.821	-.853	0.000	**			
23		90.0	-.007	.774	-.804	0.000	**			
24		95.0	.077	.738	-.613	0.000	**			
	25	.5	.639	.480	5.018	0.000	**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.133	.828	3.679	0.000	**			
		20.0					**			
	33	25.0	-.244	.876	2.617	0.000	**			
	34	30.0	-.272	.889	2.419	0.000	**			
	35	40.0	-.317	.908	1.500	0.000	**			
	36	50.0	-.282	.893	.939	0.000	**			
		60.0					**			
		70.0					**			
	39	80.0	.229	.672	-.130	0.000	**			
	40	90.0	.294	.643	-.156	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.432	.838	0.000
Cz	LOWER	-.018	.475	0.000
Cz	TOTAL	.414	1.312	0.000
Cm	UPPER	.034	-.161	0.000
Cm	LOWER	.010	-.039	0.000
Cm	TOTAL	.044	-.200	0.000

*** LANN *** RUN 264 ***

TABLE 9.23

TEST CONDITIONS		NORM. COEFF. Cz RE	NORM. COEFF. Czi IM	MOM. COEFF. Cm RE	MOM. COEFF. Cmi IM
		SECT.1	.301 1.551	.014	.105
		SECT.2	.332 1.962	.015	.027
RUNNR. = 264		SECT.3	.379 2.235	.023	.057
ALFA = .59 (DEG)		SECT.4	.378 2.428	.037	.022
MACH = .820		SECT.5	.338 1.844	.047	-.153
RE*10**-6= 5.45		SECT.6	.264 1.409	.050	-.258
Q =45.25 (KPA)					
P-SETTL. =149.5 (KPA)		WING	.323 1.838	.037	.315
T-SETTL. =26.00				(WING ; CM ABOUT AERODYN. CENTER)	
DALFA = .246 (DEG)					
FREQ. = 0.00 (Hz)			QUASI STEADY		
HARM. = 1					

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.741	.455	-2.135	0.000	**			
2		.5	.123	.762	-4.674	0.000	**			
3		1.5	-.505	1.063	-5.514	0.000	**			
4		3.0	-.877	1.266	-7.098	0.000	**			
5		5.0	-.893	1.276	-7.147	0.000	**	0.000	0.000	105
6		7.5	-1.050	1.375	-1.423	0.000	**			
7		10.0	-1.066	1.386	-3.681	0.000	**			
8		15.0	-.991	1.337	-12.70	0.000	**			
9		20.0	-.617	1.121	-6.832	0.000	**			
10		25.0	-.595	1.109	-1.660	0.000	**			
11		30.0	-.580	1.102	-2.528	0.000	**			
12		35.0	-.576	1.100	-.285	0.000	**			
13		40.0	-.577	1.100	-2.988	0.000	**			
14		45.0	-.580	1.101	-13.82	0.000	**			
15		50.0	-.433	1.026	-.245	0.000	**			
16		55.0	-.389	1.005	.188	0.000	**			
17		60.0	-.348	.985	-.210	0.000	**			
18		65.0	-.290	.956	-.134	0.000	**			
19		70.0	-.228	.927	-.111	0.000	**	0.000	0.000	119
20		75.0	-.171	.900	.054	0.000	**			
21		80.0	-.111	.872	.006	0.000	**			
22		85.0	-.034	.836	.025	0.000	**			
23		90.0	.026	.808	.030	0.000	**			
24		95.0	.100	.774	-.039	0.000	**			
	25	.5	.706	.476	2.821	0.000	**			
	26	1.5	.371	.646	4.447	0.000	**			
	27	3.0	.309	.676	3.665	0.000	**			
	28	5.0	.221	.717	3.806	0.000	**			
	29	7.5	.076	.785	3.448	0.000	**			
		10.0					**			
	31	15.0	-.099	.866	3.326	0.000	**			
	32	20.0	-.238	.932	3.284	0.000	**			
	33	25.0	-.334	.978	3.180	0.000	**			
	34	30.0	-.453	1.037	3.665	0.000	**			
	35	40.0	-.505	1.063	4.771	0.000	**			
	36	50.0	-.496	1.058	2.577	0.000	**			
	37	60.0	-.250	.937	1.290	0.000	**			
	38	70.0	-.003	.821	.778	0.000	**			
	39	80.0	.168	.742	.601	0.000	**			
	40	90.0	.276	.691	.401	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 1 ** RE	IM
Cz	UPPER	.425	.837	0.000
Cz	LOWER	-.124	.713	0.000
Cz	TOTAL	.301	1.551	0.000
Cm	UPPER	.021	-.011	0.000
Cm	LOWER	-.007	.116	0.000
Cm	TOTAL	.014	.105	0.000

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.774	.437	-2.190	0.000	**			
2		.5	.166	.743	-4.588	0.000	**			
3		1.5	-.493	1.057	-6.943	0.000	**			
4		3.0	-.798	1.220	-6.597	0.000	**			
5		5.0	-.917	1.291	-6.655	0.000	**			
6		7.5	-1.061	1.382	-6.027	0.000	**			
7		10.0	-1.087	1.400	-1.999	0.000	**			
8		15.0	-1.054	1.378	-4.865	0.000	**			
9		20.0	-1.023	1.357	-7.431	0.000	**			
10		25.0	-.951	1.312	-34.69	0.000	**			
11		30.0	-.634	1.130	-8.040	0.000	**			
12		35.0	-.590	1.107	-7.094	0.000	**			
13		40.0	-.478	1.049	-5.036	0.000	**			
14		45.0	-.434	1.027	.540	0.000	**			
15		50.0	-.418	1.019	.869	0.000	**			
16		55.0	-.372	.996	.543	0.000	**			
17		60.0	-.330	.976	.335	0.000	**			
18		65.0	-.286	.955	.476	0.000	**			
19		70.0	-.224	.925	.379	0.000	**			
20		75.0	-.161	.895	.333	0.000	**			
21		80.0	-.108	.870	.255	0.000	**			
22		85.0	-.039	.838	.208	0.000	**			
23		90.0	.030	.806	.077	0.000	**			
24		95.0	.106	.771	-.089	0.000	**			
	25	.5	.703	.477	2.944	0.000	**			
	26	1.5	.371	.646	4.576	0.000	**			
	27	3.0	.276	.691	4.064	0.000	**			
	28	5.0	.162	.745	3.855	0.000	**			
	29	7.5	.069	.788	3.676	0.000	**			
	30	10.0	.018	.811	3.520	0.000	**			
	31	15.0	-.127	.879	3.600	0.000	**			
	32	20.0	-.266	.945	3.663	0.000	**			
	33	25.0	-.361	.991	3.599	0.000	**			
	34	30.0	-.467	1.044	4.453	0.000	**			
	35	40.0	-.544	1.083	5.067	0.000	**			
	36	50.0	-.453	1.036	2.322	0.000	**			
	37	60.0	-.214	.920	1.209	0.000	**			
	38	70.0	.024	.809	.726	0.000	**			
	39	80.0	.187	.733	.676	0.000	**			
	40	90.0	.286	.686	.522	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 2 ** RE	IM
Cz	UPPER	.453	1.203	0.000
Cz	LOWER	-.121	.759	0.000
Cz	TOTAL	.332	1.962	0.000
Cm	UPPER	.017	-.090	0.000
Cm	LOWER	-.002	.117	0.000
Cm	TOTAL	.015	.027	0.000

*** LANN *** RUN 264 ***

TABLE 9.23 (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.797	.423	-2.099	0.000	**			
2		.5	.153	.749	-5.008	0.000	**			
3		1.5	-.496	1.058	-5.945	0.000	**			
4		3.0	-.763	1.200	-7.197	0.000	**			
5		5.0	-.888	1.273	-6.039	0.000	**			
6		7.5	-1.038	1.367	-4.837	0.000	**			
7		10.0	-1.031	1.363	-3.079	0.000	**	0.000	0.000	307
8		15.0	-1.050	1.375	-4.775	0.000	**			
9		20.0	-1.036	1.366	-4.876	0.000	**	0.000	0.000	309
10		25.0	-1.022	1.357	-6.442	0.000	**			
		30.0					**			
12		35.0	-.682	1.155	-46.83	0.000	**			
13		40.0	-.436	1.028	-8.572	0.000	**	0.000	0.000	313
14		45.0	-.391	1.006	.903	0.000	**			
15		50.0	-.375	.998	3.280	0.000	**	0.000	0.000	315
16		55.0	-.346	.984	2.766	0.000	**			
17		60.0	-.319	.971	2.175	0.000	**	0.000	0.000	317
18		65.0	-.280	.952	1.776	0.000	**			
19		70.0	-.231	.928	1.317	0.000	**	0.000	0.000	319
20		75.0	-.173	.901	1.032	0.000	**			
21		80.0	-.113	.873	.629	0.000	**	0.000	0.000	321
22		85.0	-.051	.844	.460	0.000	**			
23		90.0	.019	.811	.269	0.000	**	0.000	0.000	323
24		95.0	.101	.773	.116	0.000	**			
	25	.5	.699	.479	3.249	0.000	**			
	26	1.5	.375	.644	5.074	0.000	**			
	27	3.0	.263	.697	4.844	0.000	**			
		5.0					**			
	29	7.5	.049	.797	4.108	0.000	**			
	30	10.0	-.029	.834	3.890	0.000	**			
		15.0					**			
	32	20.0	-.272	.948	3.999	0.000	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.419	1.020	2.449	0.000	**			
	37	60.0	-.191	.909	1.250	0.000	**			
	38	70.0	.038	.802	.792	0.000	**			
	39	80.0	.200	.727	.758	0.000	**			
	40	90.0	.299	.680	.523	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.463	1.523	0.000
Cz	LOWER	-.084	.712	0.000
Cz	TOTAL	.379	2.235	0.000
Cm	UPPER	.018	-.036	0.000
Cm	LOWER	.005	.093	0.000
Cm	TOTAL	.023	.057	0.000

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.837	.398	-1.790	0.000	**			
2		.5	.218	.718	-5.654	0.000	**			
3		1.5	-.390	1.005	-7.450	0.000	**			
4		3.0	-.694	1.162	-6.050	0.000	**			
5		5.0	-.859	1.256	-5.656	0.000	**	0.000	0.000	405
6		7.5	-.951	1.311	-5.817	0.000	**			
7		10.0					**	0.000	0.000	407
8		15.0	-.970	1.324	-5.096	0.000	**			
9		20.0	-.984	1.332	-4.815	0.000	**	0.000	0.000	409
10		25.0	-.982	1.331	-6.464	0.000	**			
		30.0					**			
12		35.0	-.942	1.306	-42.60	0.000	**			
13		40.0	-.475	1.047	-23.21	0.000	**	0.000	0.000	413
14		45.0	-.387	1.004	-1.040	0.000	**			
15		50.0	-.371	.996	4.515	0.000	**	0.000	0.000	415
16		55.0	-.364	.993	5.018	0.000	**			
17		60.0	-.343	.982	3.986	0.000	**	0.000	0.000	417
		65.0					**			
19		70.0	-.274	.949	2.226	0.000	**			
20		75.0	-.244	.934	1.991	0.000	**			
21		80.0	-.149	.890	.944	0.000	**	0.000	0.000	421
22		85.0	-.061	.848	.535	0.000	**			
23		90.0	.016	.813	.176	0.000	**			
24		95.0	.091	.778	.063	0.000	**			
	25	.5	.639	.512	3.926	0.000	**			
	26	1.5	.277	.691	6.008	0.000	**			
	27	3.0	.159	.746	5.201	0.000	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.170	.899	4.308	0.000	**			
	32	20.0	-.282	.953	4.234	0.000	**			
	33	25.0	-.363	.992	4.283	0.000	**			
		30.0					**			
	35	40.0	-.481	1.051	4.813	0.000	**			
	36	50.0	-.401	1.011	2.415	0.000	**			
	37	60.0	-.152	.891	1.206	0.000	**			
	38	70.0	.061	.791	.737	0.000	**			
	39	80.0	.226	.715	.800	0.000	**			
	40	90.0	.310	.675	.652	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.478	1.588	0.000
Cz	LOWER	-.100	.840	0.000
Cz	TOTAL	.378	2.428	0.000
Cm	UPPER	.028	-.083	0.000
Cm	LOWER	.010	.106	0.000
Cm	TOTAL	.037	.022	0.000

*** LANN *** RUN 264 ***

TABLE 9.23 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.843	.395	-1.531	0.000	**			
2		.5	.302	.679	-6.489	0.000	**			
3		1.5	-.256	.940	-6.702	0.000	**			
4		3.0	-.537	1.079	-8.381	0.000	**			
5		5.0	-.680	1.155	-10.22	0.000	**	0.000	0.000	505
6		7.5	-.758	1.198	-6.872	0.000	**			
7		10.0	-.815	1.230	-5.006	0.000	**			
		15.0					**			
9		20.0	-.818	1.231	-8.393	0.000	**			
10		25.0	-.836	1.242	-6.068	0.000	**			
11		30.0	-.864	1.259	-8.553	0.000	**			
		35.0					**			
13		40.0	-.470	1.045	-28.77	0.000	**			
14		45.0	-.398	1.009	5.691	0.000	**			
15		50.0	-.407	1.014	8.564	0.000	**			
16		55.0	-.404	1.012	6.291	0.000	**			
17		60.0	-.382	1.001	3.888	0.000	**			
18		65.0	-.360	.990	2.382	0.000	**			
19		70.0	-.325	.974	1.716	0.000	**	0.000	0.000	519
20		75.0	-.287	.955	1.232	0.000	**			
21		80.0	-.209	.918	.483	0.000	**			
22		85.0	-.095	.864	.331	0.000	**			
23		90.0	-.005	.822	.001	0.000	**			
24		95.0	.088	.779	.073	0.000	**			
	25	.5	.570	.548	5.409	0.000	**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	-.141	.886	5.393	0.000	**			
		15.0					**			
	32	20.0	-.306	.964	4.696	0.000	**			
		25.0					**			
	34	30.0	-.413	1.017	4.517	0.000	**			
		40.0					**			
	36	50.0	-.402	1.011	1.896	0.000	**			
		60.0					**			
		70.0					**			
	39	80.0	.232	.712	.665	0.000	**			
	40	90.0	.316	.672	.501	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.436	1.018	0.000
Cz	LOWER	-.098	.827	0.000
Cz	TOTAL	.338	1.844	0.000
Cm	UPPER	.039	-.231	0.000
Cm	LOWER	.007	.078	0.000
Cm	TOTAL	.047	-.153	0.000

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.833	.401	-1.338	0.000	**			
		.5					**			
3		1.5	-.051	.844	-7.874	0.000	**			
		3.0					**			
5		5.0	-.517	1.069	-9.241	0.000	**			
		7.5					**			
7		10.0	-.721	1.177	-3.500	0.000	**			
8		15.0	-.679	1.154	-12.70	0.000	**			
		20.0					**			
10		25.0	-.791	1.216	-8.442	0.000	**			
		30.0					**			
12		35.0	-.410	1.015	-10.93	0.000	**			
13		40.0	-.329	.975	8.560	0.000	**			
14		45.0	-.358	.990	6.236	0.000	**			
15		50.0	-.369	.995	3.087	0.000	**			
16		55.0	-.360	.991	1.360	0.000	**			
17		60.0	-.345	.983	.574	0.000	**			
18		65.0	-.339	.980	.412	0.000	**			
19		70.0	-.323	.973	.148	0.000	**			
20		75.0	-.285	.954	-.121	0.000	**			
21		80.0	-.214	.920	-.437	0.000	**			
22		85.0	-.086	.860	-.624	0.000	**			
23		90.0	.025	.808	-.667	0.000	**			
24		95.0	.109	.769	-.524	0.000	**			
	25	.5	.398	.633	7.722	0.000	**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.307	.965	4.960	0.000	**			
		20.0					**			
	33	25.0	-.403	1.012	3.455	0.000	**			
	34	30.0	-.408	1.014	2.593	0.000	**			
	35	40.0	-.405	1.012	1.569	0.000	**			
	36	50.0	-.318	.970	.648	0.000	**			
		60.0					**			
		70.0					**			
	39	80.0	.235	.710	.011	0.000	**			
	40	90.0	.300	.680	.098	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.358	.793	0.000
Cz	LOWER	-.094	.616	0.000
Cz	TOTAL	.264	1.409	0.000
Cm	UPPER	.037	-.189	0.000
Cm	LOWER	.013	-.069	0.000
Cm	TOTAL	.050	-.258	0.000

*** LANN *** RUN 274 *** TABLE 9.24

TEST CONDITIONS		NORM. COEFF. Cz RE	NORM. COEFF. Czi IM	MOM. COEFF. Cm RE	MOM. COEFF. Cmi IM
	SECT.1	.483	1.881	.021	.182
	SECT.2	.535	1.912	.021	.150
	SECT.3	.599	1.861	.036	.415
	SECT.4	.578	.699	.048	.222
	SECT.5	.532	-.330	.044	-.747
	SECT.6	.421	.688	.042	-.248
RUNNR. = 274	WING	.512	1.341	.050	-.416
ALFA = 2.59 (DEG)				(WING : CM ABOUT	
MACH = .820				AERODYN. CENTER)	
RE*10**-6= 5.40					
Q =45.47 (KPA)					
P-SETTL. =150.3 (KPA)					
T-SETTL. =29.00					
DALFA = .256 (DEG)					
FREQ. = 0.00 (Hz)					
HARM. = 1					

QUASI STEADY

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.664	.498	-2.379	0.000	**			
2		.5	-.037	.837	-4.941	0.000	**			
3		1.5	-.716	1.174	-7.843	0.000	**			
4		3.0	-1.064	1.384	-5.379	0.000	**			
5		5.0	-1.114	1.419	-6.866	0.000	**	0.000	0.000	105
6		7.5	-1.183	1.468	-6.387	0.000	**			
7		10.0	-1.204	1.484	-4.794	0.000	**			
8		15.0	-1.161	1.452	-4.377	0.000	**			
9		20.0	-1.137	1.435	-5.291	0.000	**			
10		25.0	-.858	1.255	-20.94	0.000	**			
11		30.0	-.726	1.180	-4.879	0.000	**			
12		35.0	-.705	1.168	-4.289	0.000	**			
13		40.0	-.700	1.165	-4.083	0.000	**			
14		45.0	-.720	1.176	-3.691	0.000	**			
15		50.0	-.753	1.194	-4.418	0.000	**			
16		55.0	-.431	1.025	-13.97	0.000	**			
17		60.0	-.327	.975	-.177	0.000	**			
18		65.0	-.273	.948	.756	0.000	**			
19		70.0	-.216	.921	.623	0.000	**	0.000	0.000	119
20		75.0	-.162	.895	.489	0.000	**			
21		80.0	-.102	.867	.492	0.000	**			
22		85.0	-.028	.833	.320	0.000	**			
23		90.0	.030	.806	.240	0.000	**			
24		95.0	.100	.773	.166	0.000	**			
	25	.5	.789	.427	2.297	0.000	**			
	26	1.5	.504	.581	3.805	0.000	**			
	27	3.0	.426	.620	3.129	0.000	**			
	28	5.0	.337	.662	3.139	0.000	**			
	29	7.5	.188	.733	3.061	0.000	**			
		10.0					**			
	31	15.0	.001	.819	3.026	0.000	**			
	32	20.0	-.133	.882	3.209	0.000	**			
	33	25.0	-.228	.927	3.217	0.000	**			
	34	30.0	-.334	.978	3.755	0.000	**			
	35	40.0	-.374	.997	3.562	0.000	**			
	36	50.0	-.400	1.010	2.835	0.000	**			
	37	60.0	-.210	.918	.946	0.000	**			
	38	70.0	.024	.808	.540	0.000	**			
	39	80.0	.192	.730	.512	0.000	**			
	40	90.0	.295	.682	.596	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 1 ** RE	IM
Cz	UPPER	.534	1.235	0.000
Cz	LOWER	-.052	.646	0.000
Cz	TOTAL	.483	1.881	0.000
Cm	UPPER	.021	.074	0.000
Cm	LOWER	-.001	.108	0.000
Cm	TOTAL	.021	.182	0.000

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.693	.482	-2.432	0.000	**			
2		.5	.004	.818	-4.860	0.000	**			
3		1.5	-.756	1.196	-7.046	0.000	**			
4		3.0	-1.000	1.342	-5.695	0.000	**			
5		5.0	-1.111	1.417	-6.084	0.000	**			
6		7.5	-1.224	1.499	-5.584	0.000	**			
7		10.0	-1.237	1.509	-5.434	0.000	**			
8		15.0	-1.205	1.485	-5.412	0.000	**			
9		20.0	-1.185	1.470	-4.498	0.000	**			
10		25.0	-1.178	1.465	-4.919	0.000	**			
11		30.0	-1.176	1.463	-4.998	0.000	**			
12		35.0	-1.133	1.432	-6.860	0.000	**			
13		40.0	-.952	1.312	-29.92	0.000	**			
14		45.0	-.655	1.141	-6.824	0.000	**			
15		50.0	-.466	1.043	-6.992	0.000	**			
16		55.0	-.351	.986	-3.158	0.000	**			
17		60.0	-.291	.957	.878	0.000	**			
18		65.0	-.246	.935	1.974	0.000	**			
19		70.0	-.192	.910	1.706	0.000	**			
20		75.0	-.136	.883	1.248	0.000	**			
21		80.0	-.087	.860	1.057	0.000	**			
22		85.0	-.026	.832	.683	0.000	**			
23		90.0	.039	.802	.391	0.000	**			
24		95.0	.110	.769	.325	0.000	**			
	25	.5	.790	.427	2.524	0.000	**			
	26	1.5	.506	.580	3.821	0.000	**			
	27	3.0	.401	.632	3.531	0.000	**			
	28	5.0	.279	.690	3.135	0.000	**			
	29	7.5	.187	.733	3.171	0.000	**			
	30	10.0	.130	.759	3.103	0.000	**			
	31	15.0	-.017	.828	3.294	0.000	**			
	32	20.0	-.148	.889	3.638	0.000	**			
	33	25.0	-.242	.933	3.659	0.000	**			
	34	30.0	-.331	.976	4.203	0.000	**			
	35	40.0	-.414	1.017	3.564	0.000	**			
	36	50.0	-.376	.998	2.269	0.000	**			
	37	60.0	-.177	.903	.744	0.000	**			
	38	70.0	.049	.797	.365	0.000	**			
	39	80.0	.211	.722	.453	0.000	**			
	40	90.0	.307	.677	.579	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 2 ** RE	IM
Cz	UPPER	.584	1.266	0.000
Cz	LOWER	-.048	.646	0.000
Cz	TOTAL	.535	1.912	0.000
Cm	UPPER	.017	.065	0.000
Cm	LOWER	.004	.085	0.000
Cm	TOTAL	.021	.150	0.000

*** L...ANN *** RUN 274 ***

TABLE 9.24 (cont'd)

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.717	.469	-2.451	0.000	**			
2		.5	-.016	.827	-5.234	0.000	**			
3		1.5	-.706	1.168	-7.822	0.000	**			
4		3.0	-.996	1.340	-6.274	0.000	**			
5		5.0	-1.099	1.408	-6.751	0.000	**			
6		7.5	-1.203	1.483	-6.034	0.000	**			
7		10.0	-1.194	1.476	-5.393	0.000	**	0.000	0.000	307
8		15.0	-1.208	1.487	-5.178	0.000	**			
9		20.0	-1.184	1.469	-5.144	0.000	**	0.000	0.000	309
10		25.0	-1.174	1.461	-4.525	0.000	**			
		30.0					**			
12		35.0	-1.166	1.456	-5.469	0.000	**			
13		40.0	-1.160	1.452	-.675	0.000	**	0.000	0.000	313
14		45.0	-.662	1.145	-.290	0.000	**			
15		50.0	-.590	1.106	-4.854	0.000	**	0.000	0.000	315
16		55.0	-.502	1.061	-8.987	0.000	**			
17		60.0	-.405	1.012	-11.03	0.000	**	0.000	0.000	317
18		65.0	-.292	.957	-9.430	0.000	**			
19		70.0	-.194	.911	-5.432	0.000	**	0.000	0.000	319
20		75.0	-.129	.880	-2.308	0.000	**			
21		80.0	-.073	.854	-.330	0.000	**	0.000	0.000	321
22		85.0	-.021	.829	.265	0.000	**			
23		90.0	.035	.803	-.370	0.000	**	0.000	0.000	323
24		95.0	.103	.772	-.756	0.000	**			
	25	.5	.793	.425	2.374	0.000	**			
	26	1.5	.520	.573	3.712	0.000	**			
	27	3.0	.401	.631	3.412	0.000	**			
		5.0					**			
	29	7.5	.178	.737	3.343	0.000	**			
	30	10.0	.095	.776	3.327	0.000	**			
		15.0					**			
	32	20.0	-.146	.888	3.749	0.000	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.343	.982	1.850	0.000	**			
	37	60.0	-.155	.892	.291	0.000	**			
	38	70.0	.061	.791	-.111	0.000	**			
	39	80.0	.221	.717	-.064	0.000	**			
	40	90.0	.316	.672	-.040	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 3 ** RE	IM
Cz	UPPER	.614	1.348	0.000
Cz	LOWER	-.015	.513	0.000
Cz	TOTAL	.599	1.861	0.000
Cm	UPPER	.026	.421	0.000
Cm	LOWER	.010	-.005	0.000
Cm	TOTAL	.036	.415	0.000

NR. UP	NR. LOW	%CHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.769	.439	-2.173	0.000	**			
2		.5	.027	.807	-5.625	0.000	**			
3		1.5	-.678	1.153	-9.054	0.000	**			
4		3.0	-.892	1.275	-6.373	0.000	**			
5		5.0	-1.063	1.384	-6.684	0.000	**	0.000	0.000	405
6		7.5	-1.125	1.427	-5.806	0.000	**			
7		10.0					**	0.000	0.000	407
8		15.0	-1.140	1.437	-5.407	0.000	**			
9		20.0	-1.149	1.443	-5.367	0.000	**	0.000	0.000	409
10		25.0	-1.140	1.437	-5.844	0.000	**			
		30.0					**			
12		35.0	-1.150	1.444	-2.587	0.000	**			
13		40.0	-1.036	1.366	50.439	0.000	**	0.000	0.000	413
14		45.0	-.623	1.124	8.903	0.000	**			
15		50.0	-.567	1.094	1.402	0.000	**	0.000	0.000	415
16		55.0	-.512	1.066	-.338	0.000	**			
17		60.0	-.442	1.031	-2.570	0.000	**	0.000	0.000	417
		65.0					**			
19		70.0	-.267	.945	-6.034	0.000	**			
20		75.0	-.188	.908	-6.655	0.000	**			
21		80.0	-.117	.874	-6.914	0.000	**	0.000	0.000	421
22		85.0	-.054	.845	-7.937	0.000	**			
23		90.0	-.002	.821	-8.869	0.000	**			
24		95.0	.042	.800	-9.334	0.000	**			
	25	.5	.751	.450	2.680	0.000	**			
	26	1.5	.445	.610	3.965	0.000	**			
	27	3.0	.316	.672	3.883	0.000	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.043	.840	3.370	0.000	**			
	32	20.0	-.152	.891	3.471	0.000	**			
	33	25.0	-.234	.929	3.404	0.000	**			
		30.0					**			
	35	40.0	-.368	.994	2.210	0.000	**			
	36	50.0	-.338	.980	.451	0.000	**			
	37	60.0	-.128	.880	-1.317	0.000	**			
	38	70.0	.072	.787	-2.016	0.000	**			
	39	80.0	.238	.709	-2.111	0.000	**			
	40	90.0	.311	.675	-2.686	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 4 ** RE	IM
Cz	UPPER	.609	.497	0.000
Cz	LOWER	-.031	.202	0.000
Cz	TOTAL	.578	.699	0.000
Cm	UPPER	.037	.531	0.000
Cm	LOWER	.011	-.309	0.000
Cm	TOTAL	.048	.222	0.000

*** LANN *** RUN 274 ***

TABLE 9.24 (cont'd)

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.779	.434	-1.916	0.000	**			
2		.5	.098	.774	-5.572	0.000	**			
3		1.5	-.470	1.045	-6.164	0.000	**			
4		3.0	-.806	1.224	-7.168	0.000	**			
5		5.0	-.922	1.293	-7.400	0.000	**	0.000	0.000	505
6		7.5	-.974	1.326	-6.277	0.000	**			
7		10.0	-1.021	1.356	-5.625	0.000	**			
		15.0					**			
9		20.0	-1.054	1.377	-5.839	0.000	**			
10		25.0	-1.047	1.373	-6.115	0.000	**			
11		30.0	-1.064	1.384	-4.445	0.000	**			
		35.0					**			
13		40.0	-1.084	1.398	8.605	0.000	**			
14		45.0	-.797	1.220	49.284	0.000	**			
15		50.0	-.532	1.077	5.878	0.000	**			
16		55.0	-.441	1.030	2.474	0.000	**			
17		60.0	-.356	.989	.863	0.000	**			
18		65.0	-.284	.953	.207	0.000	**			
19		70.0	-.226	.926	.765	0.000	**	0.000	0.000	519
20		75.0	-.183	.905	1.771	0.000	**			
21		80.0	-.130	.881	1.541	0.000	**			
22		85.0	-.056	.846	-.899	0.000	**			
23		90.0	.005	.817	-2.681	0.000	**			
24		95.0	.068	.788	-4.793	0.000	**			
	25	.5	.705	.476	2.990	0.000	**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	.008	.816	3.208	0.000	**			
		15.0					**			
	32	20.0	-.174	.901	3.124	0.000	**			
		25.0					**			
	34	30.0	-.290	.956	2.749	0.000	**			
		40.0					**			
	36	50.0	-.359	.990	-.882	0.000	**			
		60.0					**			
		70.0					**			
	39	80.0	.240	.708	-2.037	0.000	**			
	40	90.0	.316	.672	-2.266	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 5 ** RE	IM
Cz	UPPER	.565	-.435	0.000
Cz	LOWER	-.033	.104	0.000
Cz	TOTAL	.532	-.330	0.000
Cm	UPPER	.036	-.445	0.000
Cm	LOWER	.008	-.302	0.000
Cm	TOTAL	.044	-.747	0.000

NR. UP	NR. LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES) Cp STEADY	M-LOC.	Cp RE	Cp IM	**	CALIBRATION (TRANSD.) Cp RE	Cp IM	NR.
1		0.0	.771	.438	-1.750	0.000	**			
		.5					**			
3		1.5	-.294	.958	-6.173	0.000	**			
		3.0					**			
5		5.0	-.760	1.199	-5.918	0.000	**			
		7.5					**			
7		10.0	-.875	1.265	-5.989	0.000	**			
8		15.0	-.908	1.285	-4.575	0.000	**			
9		20.0	-.968	1.322	-3.612	0.000	**			
10		25.0	-1.002	1.343	-4.652	0.000	**			
11		30.0	-1.037	1.367	-4.424	0.000	**			
12		35.0	-1.074	1.391	-3.601	0.000	**			
13		40.0	-.555	1.088	5.331	0.000	**			
14		45.0	-.392	1.006	-.014	0.000	**			
15		50.0	-.289	.956	-.604	0.000	**			
16		55.0	-.259	.942	.428	0.000	**			
17		60.0	-.267	.945	.769	0.000	**			
18		65.0	-.282	.953	.797	0.000	**			
19		70.0	-.287	.955	.794	0.000	**			
20		75.0	-.269	.946	.672	0.000	**			
21		80.0	-.214	.920	.419	0.000	**			
22		85.0	-.100	.867	.089	0.000	**			
23		90.0	.007	.817	-.206	0.000	**			
24		95.0	.091	.777	-.325	0.000	**			
	25	.5	.596	.534	3.816	0.000	**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.180	.904	2.780	0.000	**			
		20.0					**			
	33	25.0	-.308	.965	2.428	0.000	**			
	34	30.0	-.334	.978	2.158	0.000	**			
	35	40.0	-.377	.999	.255	0.000	**			
	36	50.0	-.311	.967	-.662	0.000	**			
		60.0					**			
		70.0					**			
	39	80.0	.233	.711	-.292	0.000	**			
	40	90.0	.301	.679	.059	0.000	**			

OVERALL COEFFICIENTS		STEADY	** SECTION 6 ** RE	IM
Cz	UPPER	.468	.431	0.000
Cz	LOWER	-.047	.257	0.000
Cz	TOTAL	.421	.688	0.000
Cm	UPPER	.032	-.150	0.000
Cm	LOWER	.010	-.098	0.000
Cm	TOTAL	.042	-.248	0.000

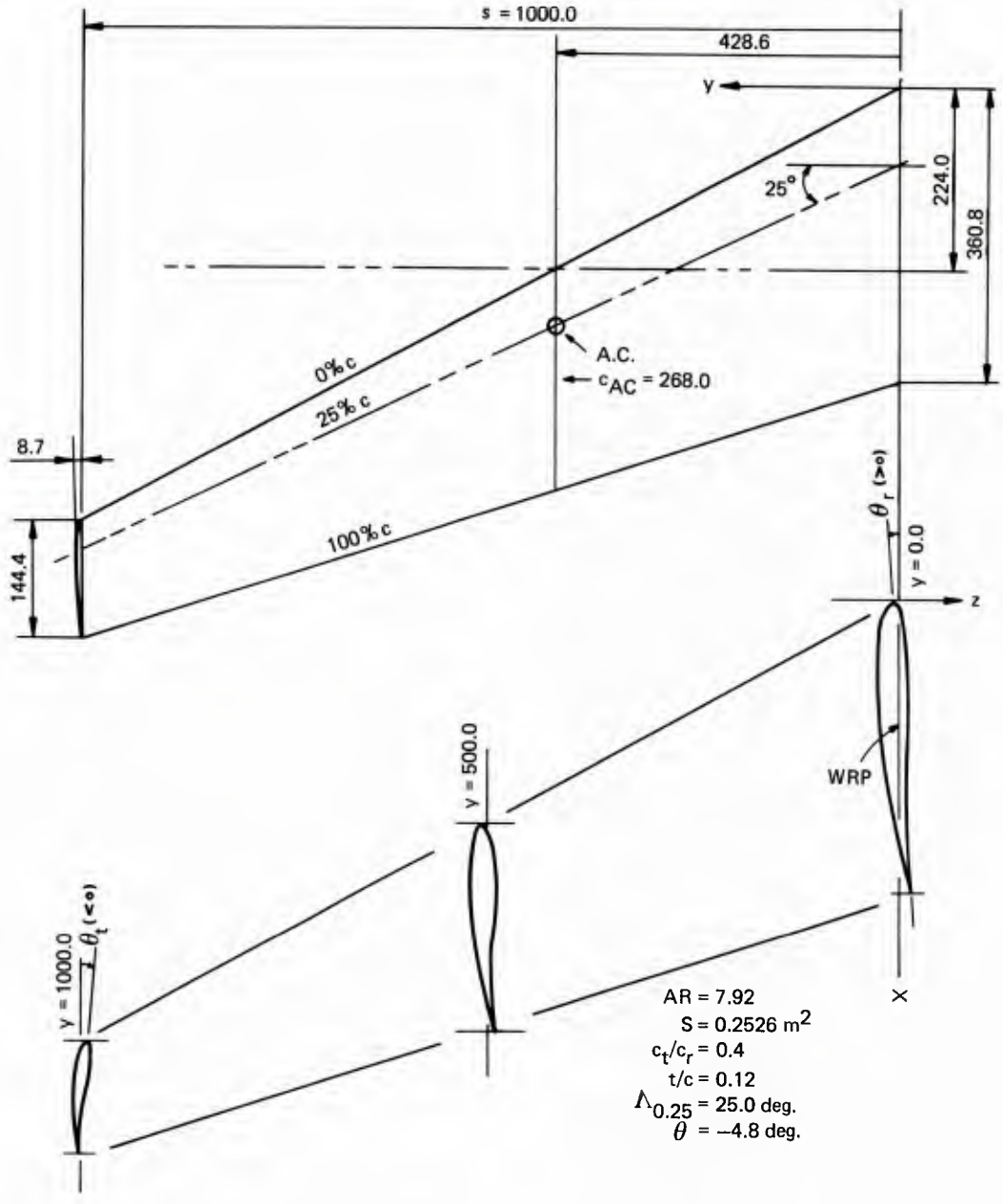


Fig. 9.1 Wing platform (dimensions in mm)

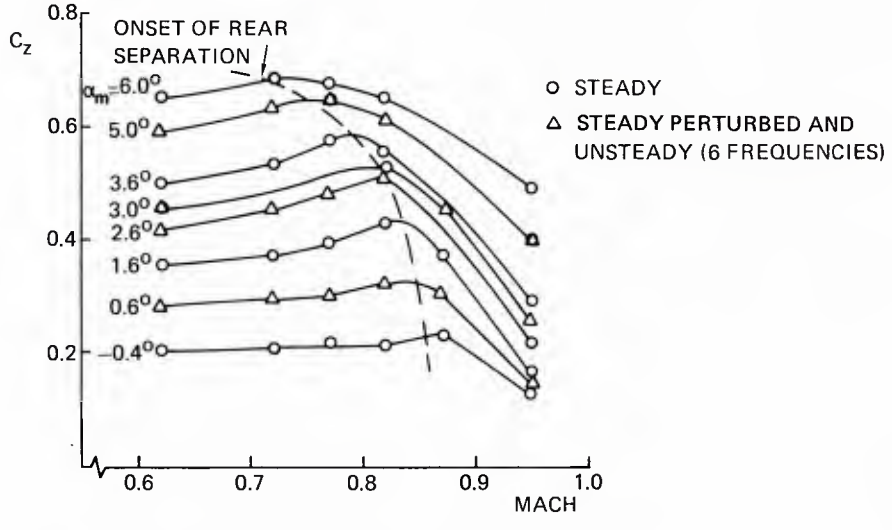


Fig. 9.2 Test conditions of LANN wing model

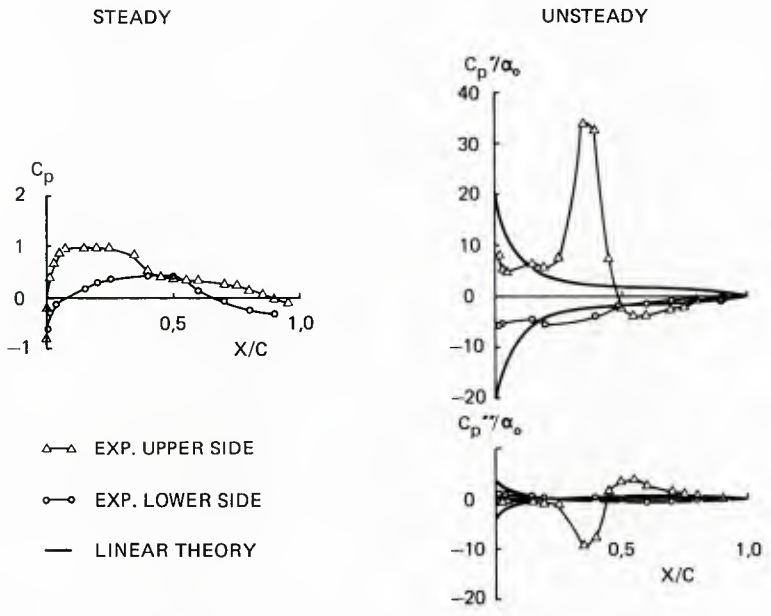


Fig. 9.3 Steady and unsteady pressure distribution at y/s = 0.65
(Run 73: M = 0.82, α_m = 0.6 deg, k = 0.103)

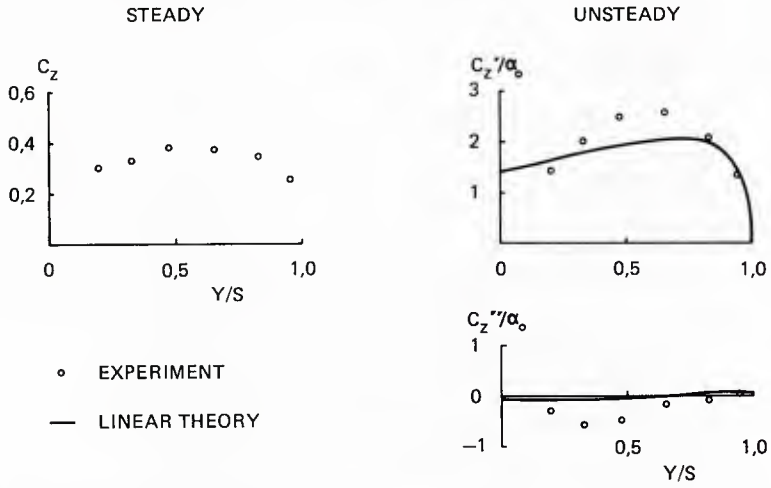


Fig. 9.4 Steady and unsteady spanwise load distribution
(Run 73: M = 0.82, α_m = 0.6 deg, k = 0.103)

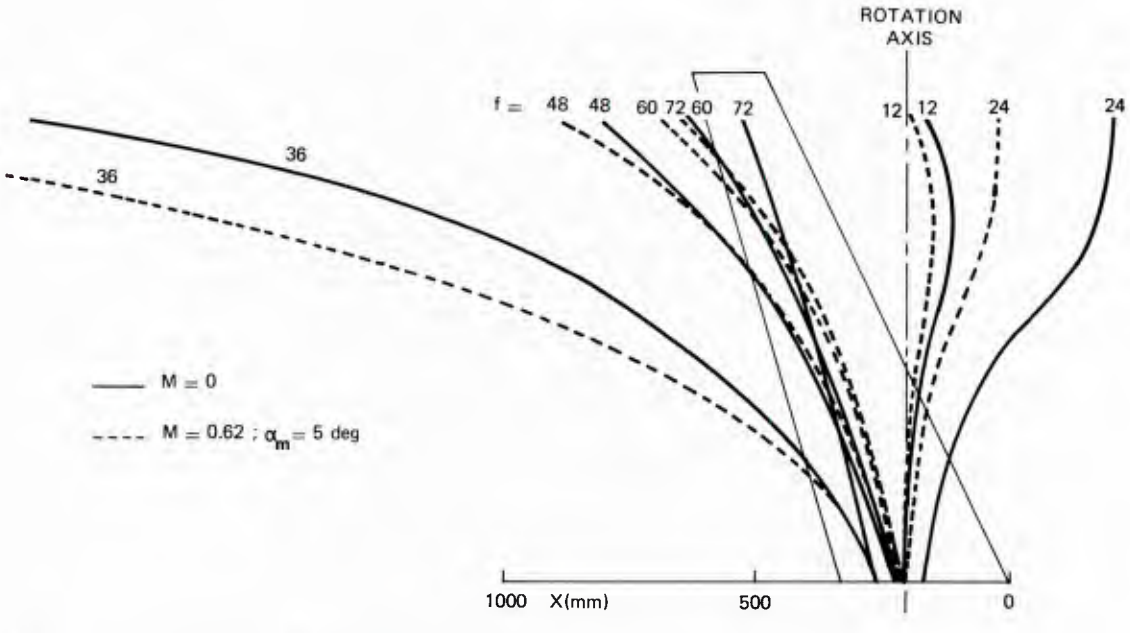


Fig. 9.5 Influence of Mach number and frequency on nodal line position

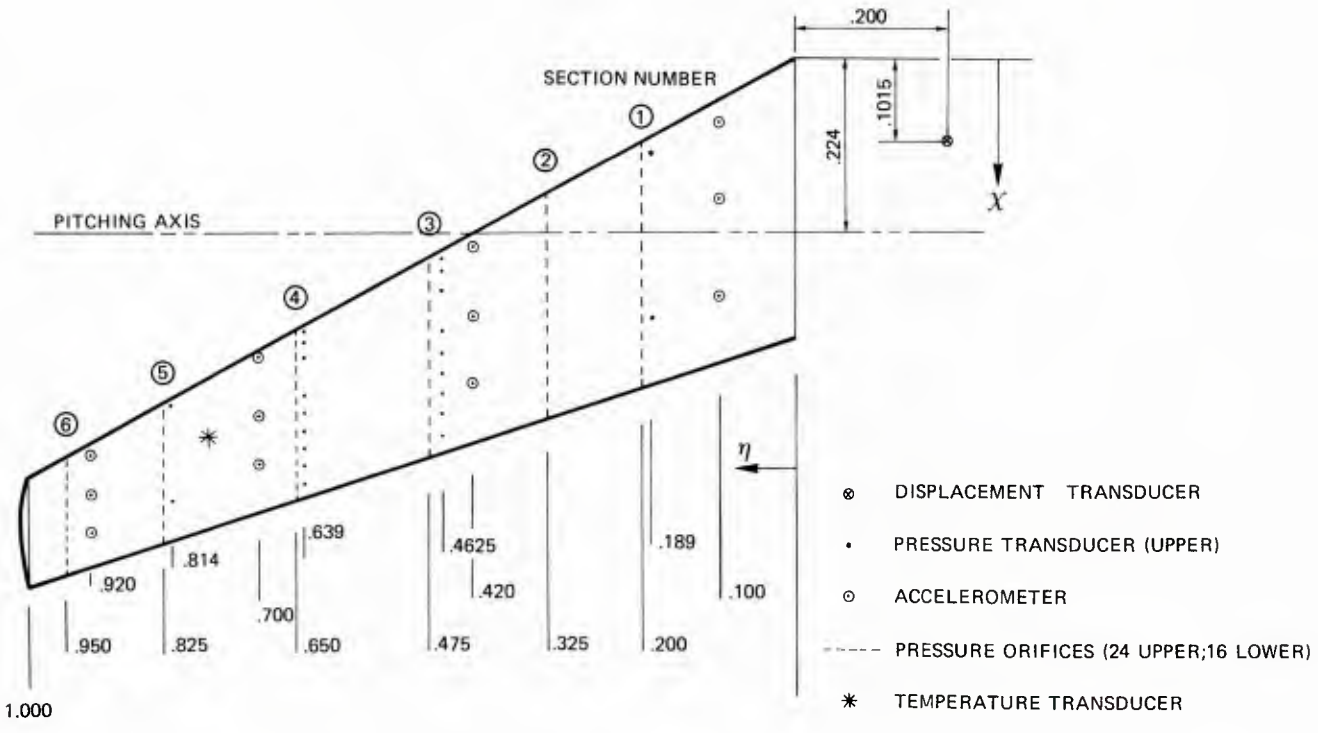


Fig. 9.6 Model instrumentation (dimensions in m) (see table 9.2, 9.3, 9.4)

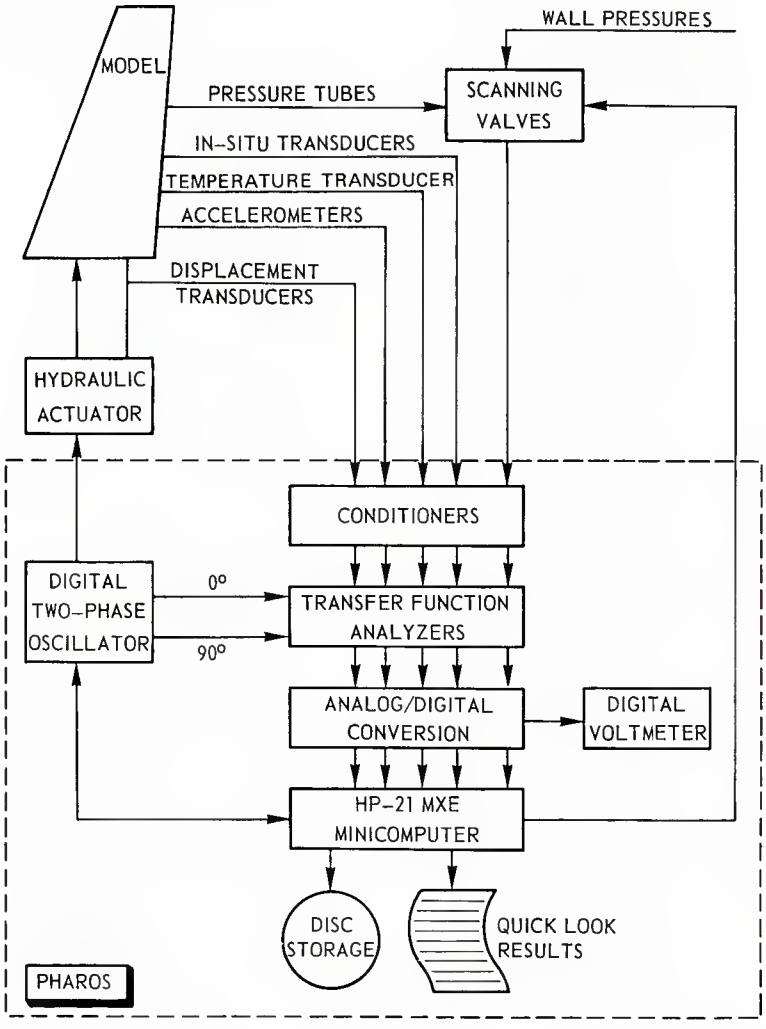


Fig. 9.7 Block-diagram of the test set-up during unsteady measurements

AGARD Report No.702 Addendum No.1
Advisory Group for Aerospace Research and Development, NATO
COMPENDIUM OF UNSTEADY AERODYNAMIC MEASUREMENTS
Published May 1985
128 pages

This Addendum contains two further sets of windtunnel measurements made on the AGARD Aeroelastic Configurations already chosen as computational test cases.

General comments on the experimental programme and its relationship to the theoretical computations are contained in the initial volume of R-702.

This report was sponsored by the Structures and Materials Panel of AGARD.

ISBN 92-835-1495-5

Aerodynamic characteristics
Unsteady flow
Transonic flow
Aeroelasticity
Aerodynamic configurations
Experimental data
Applications of mathematics

AGARD Report No.702 Addendum No.1
Advisory Group for Aerospace Research and Development, NATO
COMPENDIUM OF UNSTEADY AERODYNAMIC MEASUREMENTS
Published May 1985
128 pages

This Addendum contains two further sets of windtunnel measurements made on the AGARD Aeroelastic Configurations already chosen as computational test cases.

General comments on the experimental programme and its relationship to the theoretical computations are contained in the initial volume of R-702.

This report was sponsored by the Structures and Materials Panel of AGARD.

ISBN 92-835-1495-5

AGARD-R-702

Aerodynamic characteristics
Unsteady flow
Transonic flow
Aeroelasticity
Aerodynamic configurations
Experimental data
Applications of mathematics

AGARD Report No.702 Addendum No.1
Advisory Group for Aerospace Research and Development, NATO
COMPENDIUM OF UNSTEADY AERODYNAMIC MEASUREMENTS
Published May 1985
128 pages

This Addendum contains two further sets of windtunnel measurements made on the AGARD Aeroelastic Configurations already chosen as computational test cases.

General comments on the experimental programme and its relationship to the theoretical computations are contained in the initial volume of R-702.

This report was sponsored by the Structures and Materials Panel of AGARD.

ISBN 92-835-1495-5

AGARD-R-702

Aerodynamic characteristics
Unsteady flow
Transonic flow
Aeroelasticity
Aerodynamic configurations
Experimental data
Applications of mathematics

AGARD Report No.702 Addendum No.1
Advisory Group for Aerospace Research and Development, NATO
COMPENDIUM OF UNSTEADY AERODYNAMIC MEASUREMENTS
Published May 1985
128 pages

This Addendum contains two further sets of windtunnel measurements made on the AGARD Aeroelastic Configurations already chosen as computational test cases.

General comments on the experimental programme and its relationship to the theoretical computations are contained in the initial volume of R-702.

This report was sponsored by the Structures and Materials Panel of AGARD.

ISBN 92-835-1495-5

AGARD-R-702

Aerodynamic characteristics
Unsteady flow
Transonic flow
Aeroelasticity
Aerodynamic configurations
Experimental data
Applications of mathematics

U221222

AGARD

NATO OTAN

7 RUE ANCELLE · 92200 NEUILLY-SUR-SEINE

FRANCE

Telephone 745.08.10 · Telex 610176

DISTRIBUTION OF UNCLASSIFIED AGARD PUBLICATIONS

AGARD does NOT hold stocks of AGARD publications at the above address for general distribution. Initial distribution of AGARD publications is made to AGARD Member Nations through the following National Distribution Centres.Further copies are sometimes available from these Centres, but if not may be purchased in Mircrofiche or Photocopy form from the Purchase Agencies listed below.

NATIONAL DISTRIBUTION CENTRES

BELGIUM
Coordonna
Etat-Major
Quartier R
Rue d'Ever

CANADA
Defence Sc
Dept of Na
Ottawa, On

DENMARK
Danish Def
Ved Idraets
2100 Cope

FRANCE
O.N.E.R.A
29 Avenue
92320 Châ

GERMANY
Fachinform
Physik, Mat
Kernforsch
D-7514 Eg

NASA
National Aeronautics and Space Administration
Washington, D.C. 20546
Postage and Fees Paid National Aeronautics and Space Administration NASA-451
Official Business Penalty for Private Use $300
U.S. MAIL
SPECIAL FOURTH CLASS MAIL BOOK
1 1 48,7, 850719 S02276DS
DEPT OF THE NAVY
NAVAL POSTGRADUATE SCHOOL
DUDLEY KNOX LIBRARY
ATTN: MR BRYAN THOMPSON
MONTEREY CA 93940

ITALY
RD
ent
ARD
2700 Amadora

GREECE
Hellenic Air Force General Staff
Research and Development Directorate
Holargos, Athens

ICELAND
Director of Aviation
c/o Flugrad
Reyjavik

TURKEY
Department of Research and Development (ARGE)
Ministry of National Defence, Ankara

UNITED KINGDOM
Defence Research Information Centre
Station Square House
St Mary Cray
Orpington, Kent BR5 3RE

UNITED STATES
National Aeronautics and Space Administration (NASA)
Langley Research Center
M/S 180
Hampton, Virginia 23665
Attn. Report Distribution and Storage Unit

THE UNITED STATES NATIONAL DISTRIBUTION CENTRE (NASA) DOES NOT HOLD STOCKS OF AGARD PUBLICATIONS, AND APPLICATIONS FOR COPIES SHOULD BE MADE DIRECT TO THE NATIONAL TECHNICAL INFORMATION SERVICE (NTIS) AT THE ADDRESS BELOW.

PURCHASE AGENCIES

Microfiche or Photocopy

National Technical
Information Service (NTIS)
5285 Port Royal Road
Springfield
Virginia 22161, USA

Microfiche

ESA/Information Retrieval Service
European Space Agency
10, rue Mario Nikis
75015 Paris, France

Microfiche or Photocopy

British Library Lending
Division
Boston Spa, Wetherby
West Yorkshire LS23 7BQ
England

Requests for microfiche or photocopies of AGARD documents should include the AGARD serial number, title, author or editor, and publication date. Requests to NTIS should include the NASA accession report number. Full bibliographical references and abstracts of AGARD publications are given in the following journals:

Scientific and Technical Aerospace Reports (STAR)
published by NASA Scientific and Technical
Information Branch
NASA Headquarters (NIT-40)
Washington D.C. 20546, USA

Government Reports Announcements (GRA)
published by the National Technical
Information Services, Springfield
Virginia 22161, USA

Printed by Specialised Printing Services Limited
40 Chigwell Lane, Loughton, Essex IG10 3TZ

ISBN 92-835-1495-5